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# USSR Report

ENERGY

No. 118



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## USSR REPORT

## ENERGY

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## ELECTRIC POWER

### ZUYEVSKAYA GRES-2 CONSTRUCTION REPORT

Moscow EKONOMICHESKAYA GAZETA in Russian No 33, Aug 82 p 4

/Article by V. Sidorenko, Donetskaya Oblast: "The Second Zuyevskaya GRES"

/Text A new 2.4 million kW electric power station is being built next to the oldest Zuyevskaya GRES in the Donbass. Among the power stations which burn coal in the basin, the new station will be the largest. In March of this year the first 300,000 kW power unit went on line at the Zuyevskaya GRES-2. Within the collective a competition was initiated to bring the unit up to design parameters by the end of this year, which will be three months ahead of schedule.

The power workers are encountering difficulties. According to the design, a cooling tower is to be put into operation simultaneously with the power unit. But the Energovysotspetsstroy /Specialized High Voltage Electric Power Construction Trust builders still have not completed the cooling tower. Quite a bit of time will be needed to assemble the equipment. And without the cooling tower the power unit cannot achieve the rated load.

Serious complaints are being filed at the Zuyevskaya GRES-2 against the Belgorod plant of Glavenergostroymekhanizatsiya /Main Administration for the Mechanization of the Construction of Electric Power Stations. The primary model of a crane, which was manufactured at this enterprise, was late in reaching the cooling tower construction site.

The pace of work in assimilating capacity could have been greater were it not for the forced shutdowns of the power unit. These shutdowns are taking place largely due to the Taganrog Krasnyy Kotel'shchik Plant, which delivered a boiler to the station with significant design flaws.

At present another boiler is being installed on the second power unit. And again the Krasnyy Kotel'shchik plant is responsible for there being the need to do some of the work over.

A lag in the construction and installation work schedule was permitted on the power unit. The general contractor, Donbassenergostroy /Donbass Power Station Construction Trust<sup>7</sup>, still estimates that it will make up the lost time and hand over the second power unit to the operators on schedule, in September of this year.

The suppliers must speed up their work in filling orders for equipment for the construction project. At present the Tiraspol'skiy Elektromash Plant is slow in manufacturing the motors for the mono-unit pumps; and the Khar'kovskiy boiler-repair plant is late in providing the auxiliary boiler and nonstandard equipment.

And one other problem needs to be solved. During the construction of the power station a strong collective of construction workers came into being and a good production base was created. However, with the start-up of the second power unit there may be a lull in their work - the next two units are not to be completed until the 12th Five-Year Plan. The builders hope that the UkSSR Gosplan and the USSR Ministry of Power and Electrification will find it possible to provide them with work during the next several years.

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## ELECTRIC POWER

### SAYANO-SHUSHENSKAYA GES CONSTRUCTION REPORT

Moscow PRAVDA in Russian 1 Sep 82 p 2

/Article by A. Dzyura, PRAVDA correspondent, Sayanogorsk, Krasnoyarskiy Kray: "From the Neva River to the Tuva River"/

/Text/ The transportation operation "Neva-Yenisey", which has lasted several weeks, has concluded successfully: two working rotors, which were manufactured by the collective of the Leningradskiy Metallicheskiy Zavod Association, have been delivered to the Sayano-Shushenskaya GES.

Across the ice of the Barents and Karskoye seas, the Kazachinskiy rapids and the shoals of the Yenisey River lays this difficult route. The river fleet workers of the Verkhne-Yeniseyskoye steamship agency distinguished themselves in the final stage.

"The Yemel'yanovo and Motygino ships with the assistance of the Angara-59 tugboat brought the loaded barge to the dock of the Karlov gate. From a distance could be seen the bright slogans written on the lower rims of the working rotors: 'from Leningrad to the Sayano-Shushenskaya builders', 'the contract of the 28 in action', 'the decisions of the 26th Party Congress - we will fulfill'." The brigade of V. Dudchenko, one of the best collectives of Spetsgidroenergomon-tazh /Special Hydroelectric Power Station Installation Trust/, was given the job of unloading the barge.

Here is the commentary provided by the director of the Sayano-Shushenskaya GES, E. Shevtsov: "this multiton equipment was floated over seas and waves on its way to us. Our fears were calmed when the equipment reached us in one piece and in good condition. This was not a simple operation. It once again clearly demonstrated the benefits of joint creative work of the enterprises and organizations of Leningrad, the initiators of the famous initiative known as the 'contract of the 28'. It pleases me that there are already more than 100 collectives participating in this contract."

Although the power station is still under construction, it has already generated more than 16 billion kW-hours of electricity. And today on two of the six operating hydrounits temporary working rotors have been installed. One of these can now be replaced with a new one. The other rotor that was received is to be used for the eighth hydro-unit. To complete the second stage in the construction of the hydro-unit there will soon be a need for a ninth and tenth unit. The Leningrad plants have already started to manufacture them. They have pledged to fill our order during the 11th Five-Year Plan. For our part, we will do everything possible so that on the basis of further development of scientific-technical cooperation of dozens of collectives we can meet our high pledges and bring the power station up to rated capacity within the planned time period.

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## ELECTRIC POWER

### ROSTOVSKAYA AES CONSTRUCTION REPORT

Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 17 Jul 82 p 1

/Article by V. Aksenov, correspondent, Volgodonsk: "Hindrance Instead of Support"

/Text/ Speaking at a meeting of party and economic aktiv for Rostovskaya Oblast, which took place in Volgodonsk in mid-April, the USSR Minister of Power and Electrification, P. Neporozhnyy, provided assurances that the ministry will provide full support and assistance to the builders of the atomic power station, who have decided to hand over the first power unit 110 days ahead of schedule. But the applause had scarcely died down, when the Volgodonskenergostroy /Volgodonsk Power Station Construction Trust/ received over a direct teletype orders signed by Ye. Kuz'michev, the chief of the ministry's Glavzavodspetsstroy /Main Administration for Special Plant Construction/, directing welders and finishers be sent to the Chernobyl'skaya AES, machine operators to the Kurskaya AES, and plasterers to Orenburg.

In Volgodonsk they pleaded that they had nothing against getting some outside help.

Everything has been coordinated with the ministerial leadership, we were assured by the main administration, which advised that construction workers be detached from other, less important construction projects rather than from AES construction projects.

This is good advice, but there are also tight plans at other Volgodonsk construction projects. And when delays were noted at other key projects, the trust, of course, was forced to take people from the atomic power station construction site. The project was stripped, as they say. Thus, at the end of the first two quarters the Atomenergostroy /Atomic Power Station Construction Trust/ should have had 1,500 men at work. Today there is exactly one half of the amount working at the station.

All of this must have an effect on the pace of work and on the plan fulfillment. For the first time this year in June the administration



did not fulfill the monthly plan for the general contractor. The lag in the schedule, which was compiled considering the ahead-of-schedule completion of the first power unit, exceeded 800,000 rubles. The backheel of Glavzavodspetsstroy had a devastating effect upon the initiative of the Rostov builders.

Things are even more complicated for fulfilling the six-month plan of the subcontractor organizations. Thirteen out of 17 of these organizations are behind schedule. Together they have experienced delays in completing some 2.5 million rubles worth of work called for in the plan. And it is the general contractor which is most to blame.

The manager of the Volgodonskenergostroy Trust, Yu. Chechin, admits that they have "no particular complaints against the subcontractors. We are responsible for the disruption to the plan. We are unable to augment our personnel due to the situation that has evolved and to provide the subcontractors with a work front."

This leads to a disruption of the target topic assignments. Individual brigades in anticipation of the possibilities did not even undertake to fulfill them. Thus, the brigades of the Kavkazenergomontazh /Caucasian Power Station Installation/ Administration, which are supervised by A. Romanashenko and A. Rakhmatulin, were to have completed the installation of the chutes by 30 June according to the schedule. But this work still has not gotten underway. The general contractor has not prepared the foundation.

The builders of the Rostovskaya AES have demonstrated more than once this year that they keep their word. For five months in a row they fulfilled the plan for the general contract. The construction administration of Atomenergostroy placed second in the ministry for work results in the first quarter. But today the construction project is asking for help and is waiting for the solid support that was promised by the USSR Ministry of Power and Electrification.

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## ELECTRIC POWER

### CHEBOKSARY HYDROELECTRIC POWER STATIONS

Moscow IZVESTIYA in Russian 27 Aug 82 p 1

[Article by Zh. Mindubayev, correspondent of IZVESTIYA: "Energy Necklace of the Volga"]

[Text] The construction of a chain of large hydroelectric power stations on the Volga River is an example of the combined use of hydroresources. Today on the "main street of Russia" there are operating eight GES's, which produce about 40 billion kWh of energy per year. This is almost one-fourth of that which is produced by all the hydroelectric stations of the country.

The basic directions in the economic and social development of the USSR during 1981-1985 and for the period up to 1990 are provided by the construction of large hydroelectric power stations on the rivers of Siberia, the Far East and Central Asia. The whole system of hydroelectric systems for the Volga will be completed in the 1980's. The Cheboksary GES is the last large construction on the great Russian river. Our story is about it today.

More than 20 million kWh of electrical energy have been produced by the Volga GES imeni Lenin so far. This station alone saved the country more than 11 billion rubles worth of fuel.

One hundred thousand hectares of arid lands are being irrigated today by Volga water, which arrives to the field along the Saratov canal. The canal extends into the interior of the steppe for almost 200 kilometers.

A new irrigation system has been built in the steppes of Kalmykiya and Astrakhan Oblast. By the end of the five-year plan, about 15,000 hectares of arid lands will be irrigated here. This is a substantial contribution to carrying out the Food Program in the country.

It seems that quite recently I stood on the steep bank of the Volga River with hydroelectric station construction worker, Vasilii Karayevyy. He just arrived in the Central Volga [Region] and began to work on the suction dredger. In

those days construction was begun on the Cheboksary hydroelectric power station. Its power output is 1,400,000 kW.

Several years have passed. And here beside the Cheboksary there rose the silhouettes of the mighty and, at the same time, elegant edifices of the new Volga hydroelectric system. Now several units of the Cheboksary GES are already producing current. The hydroelectric system is being completed at the same time. The Cheboksary GES is the last stage of the Volga chain.

Probably not everyone knows that almost a half century ago the idea to construct it was already on the agenda. In the last years of the first five-year plan hydroelectric station construction workers of the Dneproges [Dnepr Hydroelectric Power Plant imeni V. I. Lenin] prepared for a trip to the banks of the Volga in the Cheboksary region. In connection with the rapid development of the Nizhegorodskiy industrial system, much electrical power was required. The Central Volga was surveyed and housing was constructed for the hydroelectric station construction workers at Cheboksary. However, construction of the Volga cascade was not begun at Cheboksary but in the upper reaches of the river. The Cheboksary GES became the concluding stage of the creation of the electrical "necklace" of the beauty of the Volga.

Even in prerevolutionary time scientist-hydrologists and river transport workers recognized that much effort is needed to save the main river of Russia. The Volga became shallower from year to year for many reasons: the cutting down of water-retaining forests, the plowing of the lands, and the increased use of Volga water by plants and cities. In the arid years on the Volga shoals, rafts and ships ran aground, and because of the shallow water it was impossible to increase the tonnage of the inland water transport. One of the prerevolutionary journals published this cartoon: a sick person lies in bed with the symbolic name "Volga." Bending anxiously side by side over the sick one were the allegorical figures of Commerce, Industry and Farming. The question which troubles them is: can the sick one be saved? The conclusion of the doctor is that the patient is hopeless.

These gloomy prophecies were repudiated by the creative energy of the Soviet people. In the 1903's the plan to revive the great river was developed and carried out. This grandiose plan was called the "Great Volga." The plan was to build several dams, collect the water and start up the hydroelectric power station. Prior to the war it was possible to erect only two--The Ivankov and Uglich--dams in the upper reaches of the river. In 1941 construction was started on the third Volga hydroelectric station--the Rybinsk. These three hydroelectric systems played an important role in supplying Moscow and the center of the country with electrical power, they made it possible to improve the capital's water supply, and ensured navigation on the Moscow-Volga Canal.

After the Great Patriotic War, construction was begun on the Kuybyshev and Volga hydroelectric power stations. Then there appeared the Gorkiy and Saratov stations, and, finally, the Cheboksary.

For many years the river has been like a staircase leading from the lower reaches upward. The "steps" are represented by the reservoirs, which are

backed up by gigantic dams. At only one place, from Cheboksary to Gorkiy was the "little staircase" broken: one concrete rung was lacking. Now it is there.

The Volga hydroelectric power stations are very efficient. The labor expenditures per unit power here are ten times less than those at thermal stations, and the energy obtained is four times cheaper to produce.

The experience gathered by the hydroelectric station constructors on the main river of Russia made it possible to cope brilliantly with the most complex problems of GES construction in Siberia, the North and Far East.

There is still one circumstance which is no less important: after the largest Volga hydroelectric power stations were put into operation, it was possible to form the Unified Power System [YeES] of the European part of the USSR.

The Volga hydroelectric systems raised by the Soviet people made it possible to solve two complex problems at the same time--transport and agriculture. Now the chain of Volga reservoirs, connected by locks and other hydrotechnical structures, has made the Volga deep. By being connected by canals with the Azov, Black, Baltic, and White Seas, the Volga has become the main water transport artery for the European part of the country. Ships of the Volga River Steamship Line have been renovated. They have become large-tonnage and can go out to sea.

The river generously gives today life-saving moisture to the fields of the region near the Volga. Irrigation canals have been extended deep into the interior of the Saratov and Kuybyshev oblasts. Irrigation of the lands in the Volgograd and Astrakhan oblasts is being carried out. The Cheboksary Reservoir makes it possible to irrigate about 300,000 hectares of agricultural lands of the Chuvash and Mari ASSR's.

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## ELECTRIC POWER

### SUPPLIERS PLAY IMPORTANT ROLE IN CONSTRUCTION OF POWER PLANT

Kiev PRAVDA UKRAINY in Russian 6 Aug 82 p 1

[Article by A. Bondarchuk, correspondent of PRAVDA UKRAINY, Kuznetsovsk of Rovno Oblast: "The Front and Support Units of the Nuclear Power Plant"]

[Text] The third unit today at the Rovno nuclear power plant is the front. The first "millionnik" [million kilowatts] at the nuclear power plant [NPP] will be one and a half times more powerful than its operating colleagues, the turning over of which became a unique test before the complex examination. It must be said that the first unit did not come easily: construction was begun far from the routes and communications. The second unit was put into operation ahead of schedule. This was an achievement, which was noted by the challenge Red Banner of the CPSU Central Committee, the USSR Council of Ministers, the All-Union Central Trade-Union Council, and the Central Committee of the All-Union Lenin Young Communist League.

Now, calculating on experience, discipline and enthusiasm of the nuclear plant builders, the standard period of the building of the powerful third unit has been reduced by a year. The problem posed is complex, and its solution will give a great economic gain to the country.

The plan of the construction-installation works in rubles has been successfully assimilated. Nevertheless, there is still no cause for special optimism among the builders and operating personnel. Here is why.

The construction schedule of the unit is concentrated. In the present year it is necessary without fail to come out with a mark of +13.2 of the hermetically sealed part of the reactor section. The reserve diesel generator electric power station, turbine section, special vessel, and cooling towers are also the "hot points." As is so-named, assemblers of the "Yuzhenergomontazh" trust work in the main direction. But now there is a shortage of about 500 persons. The weak production base impedes the work very much.



"Much conversation has been going on, and the base has still not been created," says work superintendent N. A. Kurats. "A special workshop has been under construction for a long time. We have been forced to manufacture structures under primitive conditions. This affects the quality and the cost."

The third unit and its auxiliary items are a complex engineering building. It requires high quality and reliability of the design calculations. Unfortunately, the builders often encountered errors of the designers. Much had to be redone and changed.

"At first documentation for the type of the first unit of the Zaporozhye NPP arrived," says the NPP deputy construction director, V. V. Nikulin. "Then we received the order to: do the same as for the second unit of this NPP. But the majority of orders had already been placed at the plants." It was the same story with the design of the foundations under the turbine, which was delayed by the Urals branch of the "Teploelektroproyekt" all-union institute. And any alteration means a rise in the cost, a prolonging of the work, and changes in equipment. Along with this, the expenditure plan had to be re-approved.

The breakdowns in material and technical supplies also affect the matter. The lack of equipment forces a cessation of the operations on the first project to concentrate on secondary sites. The construction is poorly provided with embedded fittings by plants under USSR Minenergomash [Ministry of Power Machine Building]. Help is counted on from "Atommash," which must manufacture parts for reactor shafts and hermetically sealed pipe tunnelings. NPP representatives went to the plant with hope and returned with a serious apprehension as to whether or not the plant will fulfill orders of even the first quarter.

The volume of work at the NPP has increased sharply. In the next year almost two times as much construction-installation work will be completed as at present. In essence, the construction of the second phase of the plant has already begun. Earthworks are being conducted at the site of the fourth unit, which is also a "millionik."

In this year and next year the contingent of construction workers and assemblers will be considerably increased. The construction site is not ready now for a large number of people.

Together with the framework of the first and second units, apartment houses and buildings of social and cultural activities were rapidly raised at Kuznetsovsk, because they chose a difficult but promising path: to erect the principal housing quarters right away. And a noticeable jump spurt was planned for this year. For example, it was proposed to complete the construction of two supermarkets. Today the picture is the following: the first was not constructed, and the second has not budged off the zero mark.

A communications center is considered to be started, but it looks as if the completion of its construction will be interrupted. Work on building a vocational technical school and sports complex has proceeded slowly. The construction of a movie theater has been halted. Kuznetsovsk has many young



people, and the average age of the inhabitants is 27 years old. They have nowhere to spend their free time: neither a theater, nor Palace of Culture, nor a young peoples' coffee house.

The industrial base of section No 2 of the construction administration, which builds social and cultural buildings is very slowly being strengthened. It constantly lacks people and equipment, and it is the last to be sent materials.

A great hindrance is the lack of discipline of certain suppliers. The Burshtyn house construction combine undersupplied 1,500 cubic meters of precast reinforced concrete and frequently distributes it in incomplete sets. Because of this, the construction of several apartment houses, schools and a vocational and technical school was stopped. The chief of the "Soyuzenergozhilstroy" union, V. I. Ryabko, arrived to help in the construction. But nothing changed. Vyshgorod Reinforced Concrete Structural Parts Plant, which is subordinate to its own ministry, let us down. The quality of the planned and estimated documentation, which is delivered from Giprograd (Kiev), gives rise to censure. Moreover, it is often behind schedule and does distinguish itself with innovative solutions. Documentation for the interior of the movie theater for the external heating networks of the microregion "Severvostok," and for the expansion of sanitation facilities. The standard building period of the NPP has been shortened. This means that it is necessary to make sure the periods of delivery of equipment, materials and documentation would be suitably matched.

Such are the serious problems facing this huge construction project, and the faster that organizations, plants and institutions involved in the construction of the NPP solve these problems, the faster the country will obtain the cheap and much needed electrical energy.

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## ELECTRIC POWER

### MARI STATE REGIONAL ELECTRIC POWER STATION

Ashkhabad TURKMENSKAYA ISKRA in Russian 3 Aug 82 p 2

[Article by N. Smirnova, worker correspondent of TURKMEYSKAYA ISKRA at the Mari GRES imeni 50th Anniversary of the USSR: "The Power of the GRES Grows"]

[Text] In the second year of the five-year plan, the collective of the Mari GRES imeni 50th Anniversary of the USSR labors intensely. During the first half of this year 3.134 billion kWh of electrical power have been produced here, which is 850 million kWh more than that produced last year. By seeking and using internal reserves of production, power engineering saved 6.9 thousand tons of conventional fuel. The labor of the Mari power engineers is evaluated on merit. According to results of socialist competition between the related enterprises of the country, the Maryites in the first quarter emerged the winners and were awarded the Challenge Red Banner of the USSR Ministry of Power Engineering and Electrification and Central Committee of the branch trade union.

The collective also emerged the winner in the All-Union Public Review on the Economic Expenditure of Fuel and Energy Resources and was awarded a diploma by the All-Union Central Trade-Union Council, the Komsomol Central Committee and USSR Gosstab.

With complete efficiency the GRES collective on duty labors in honor of the 60th anniversary of the formation of the USSR. The tone of the competition is set by the communists. These are the electricians of the electrical workshop; delegate to the Turkmen CP 22nd Congress, Saparklych Amanklychev; senior machinist of the boiler and turbine shop N. P. Kulichkov; machinists of the power unit, Muratgel'dy Ogshukov and Atamurad Mashikov; electrical mechanic of the shop of automatics and measurements, Vitautas Yermolov, fitter of the shop of centralized repair, Viktor Petrovich Krotov, and others.

The collective confidently fulfills the state plan and adopted obligations on producing electric power, and thoughts of the specialists are already occupied with the second phase of the power plant. In the current five-year plan, two more power units operating with a capacity of 210,000 kW each should be put into operation at the station.

A special feature of the second phase of the GRES will be the use in the make-up of the power units of a fundamentally new, more economical type of boiler: with an excess in pressure of the flue gases in the furnace and in the entire gas channel. The Mari power engineers still do not have the experience in operating similar boilers, and therefore specialists of the turbine and boiler workshop, the workshop for setting up and testing the thermomechanical equipment and workshop of centralized repair study the technical literature and plan field trips to the electric power station where such boilers are already in operation.

The collective of the power plans has often had to study and master new equipment. And every time it did this successfully. Therefore, there is no doubt that workers of the station will successfully master the new boiler types and the seventh and eighth power units as a whole.

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## ELECTRIC POWER

### SHORTCOMINGS IN LABOR ORGANIZATION

Moscow STROITEL'NAYA GAZETA in Russian 9 Jul 82 p 2

[Article of replies by three editorial offices under the title: "They Agreed: Without a Fight!"]

[Text] In two issues of "SG" [STROITEL'NAYA GAZETA], from 25 and 28 April, our special correspondent V. Antonov published an article titled, "They Agreed: Without a Fight!" in which there was a revealing of the serious shortcomings in the organization of labor, mode of life and in the training of the construction workers of the Kalinin AES. Several replies to this statement were published on 13 June of this year. The editorial staff's response follows.

#### Severnergostroy Trust

Management of the trust examined the questions touched upon in the article, "They Agreed: Without a Fight!," and acknowledge the critical remarks to be correct.

In the construction of the Kalinin AES, recently the management changed and duties were redistributed in a new fashion. The rates of the construction and installation operations at the industrial and housing buildings have been increased.

The dispatcher [transport] service has been increased. Special attention is being given to the introduction of weekly and daily planning.

For purposes of improving the organization of labor, the Kalinin AES construction administration jointly with the USSR Minenergo administration on the standardization of labor and wages and Energostroytrud developed the appropriate measures. The start-up construction staff took control of fulfilling the measures.

The administration housing fund is being put in order, and for this purpose a repair-construction section has been organized. In the first quarter of 1982, 11,000 square meters of habitation was put into operation and the same amount in the second quarter.

To avoid delays in introducing high-rise dwellings, plans to install elevators were included in the specialized work plan. An elevator has been installed in dormitory No 2.

To improve the feeding of the workers, a dining hall which seats 200 persons has been introduced. In the main building a snack bar has been outfitted. The delivery of two inventory dining halls of the "Berezka" type has been planned.

M. Adler, trust manager

Central Committee of the Trade Union of Workers of Electric Power Stations and Electrical Engineering Industry

In May the first deputy of the Ministry of Power Engineering and Electrification of the U' SR, P. Falaleyev, conducted a conference with leading workers of the main administrations and subdepartmental organizations of the ministry participating in the organization of labor and mode of life of the construction workers of the Kalinin AES, and at this conference measures were planned to eliminate shortcomings.

The USSR Minenergo management has developed and confirmed measures on improving trade servicing of the constructors and assemblers.

It has been proposed to the management of construction of the Kalinin AES to intensify construction-assembly works at trade sites, public catering supply of the material and technical base, and to provide in 1982 the necessary repair of the active trade enterprises and public catering establishments. The administration of construction and department of workers' supply take measures on improving dining hall operations. Snack bar canteens are provided in dormitories, and at the construction sites there are distributing centers. The Main Administration of Workers' Supply allot to the department of workers' supply construction 12 bread, refrigerator and other automatic machines.

The administration and trade-union organization solved problems of transporting construction workers to and from work sites, and they create normal living conditions for those living in dormitories.

The Kalinin Oblast council of trade unions worked out measures on the rendering of practical help to the trade-union organization of the Kalinin AES construction administration for the period of 1982-1983.

V. Kuzichev, Secretary of CC of  
Trade Union

Central Committee of the All-Union Lenin Young Communist League

We acknowledge that the critical material titled, "They Agreed: Without a Fight!" is correct. According to a report of the Kalinin Komsomol obkom, measures were taken to eliminate the noted shortcomings at the construction.

A firm schedule of the buses traveling from the settlement of the power engineers to the construction site was established. Dormitory residents were assigned living quarters in conformance with health standards, and a section for repairing dormitories was created. Two additional radio communication lines were established to the dormitories and settlement of the power engineers, and a snack bar was opened up in dormitory No 2. The newspaper stands of "Soyuzpechat" were installed near the hostels and at the industrial site. Construction of a dance hall has begun, the construction workers' club has been reequipped for the showing of movie films, and the construction of a soccer field, gorodki [type of bowling game] GTO [expansion unknown] and running track is being completed.

V. Karnyushin, Deputy Director of  
the Komsomol Central Committee  
Department of Working Youth

9978

CSO: 1822/282



## ELECTRIC POWER

### BRIEFS

**POWER PLANT DELAY**--The collective of the administration "Sredazenergomontazh" has achieved a fast pace in assembling equipment at the Ekibastuz GRES-1. Having completed operations on power-generating unit No 5 earlier than others, it went to the next units. In August it plans to begin the acid washing of the boiler unit on the sixth power unit. But for several weeks the administration brigades cannot completely go over to the seventh boiler unit because the construction management of GRES-1 is late with the pouring of foundations in the boiler section. As a result, the delay "ate up" the time saved earlier by the assemblers. [Text] [Moscow EKONOMICHESKAYA GAZETA in Russian No 34, Aug 82 p 18] 9978

**DELAYS IN UNIT INSTALLATION**--A considerable volume of work at GRES-1 has been fulfilled since the beginning of the year, but the state of affairs remains complex. The time schedules for introducing power unit No 5, nitrogen-oxygen station, fuel feed No 2, parts of the engineering-general vessel, and other priority objects have not been maintained. This is explained by the fact that in many subdivisions of the "Ekibastuzenergostroy" trust, they are not oriented on final results and the releasing of finished construction product. Often the builders fulfill only the "profitable" works and postpone the completion of objects for final release. Thus, in particular, this happened at the fuel feed No 2, where assemblers of the "Uralenergomontazh" administration could not complete the installation of the equipment in a timely manner because of construction deficiencies. A similar picture is observed in the construction of dwellings. The construction of housing in the 15th microregion is delayed due to the lag in completion of the substation "Zapadnaya" and the central thermal station. [Text] [Moscow EKONOMICHESKAYA GAZETA in Russian No 34, Aug 82 p 18] 9978

**RAPID HOUSING CONSTRUCTION**--Only fifteen thousand square meters of housing have been constructed in a half year by the power plant construction workers. In order to meet the assignment, by the end of this year 58,000 square meters must be introduced. Recently at the "Ekibastuzenergostroy" trust the decision was made to begin an experimental rapid construction of a dwelling. The plan called for its completion in two months instead of five. The experiment should play an important role in determining the rates and quality of housing construction in a future period. A course is being taken for the concentration of forces and equipment on the buildings, the maximum mechanization of labor-intensive operations, and the production-line fulfillment of a complex of

operations, including the organization of public services and amenities of the territory. The rapid construction at Ekibastuz should become not a single record but the norm. [Text] [Moscow EKONOMICHESKAYA GAZETA in Russian No 34, Aug 82 p 18] 9978

MONITORING CONSTRUCTION SCHEDULE--Deputy Minister of Power Engineering and Electrification of the USSR, V. Budenny, replies to a report from the monitoring post in No 24 of our weekly [newspaper]: USSR Minenergo [Ministry of Power] examined the course of construction and preparation of the Ekibastuz thermoelectric power plant for operation in the autumn-winter period. At present 400 construction workers and assemblers are working at the thermoelectric power plant. Work schedules on start-up projects are being confirmed. The manager of the "Ekibastuzenergostroy" trust, E. Filatov, is designated responsible for putting new capacities into operation. Being accelerated are the construction-assembly operations at the fuel feed No 2 and metal insert of the second smoke-stack of GRES-1, which fell behind schedule. The ministry has established strict monitoring of the course of construction of the indicated projects. [Text] [EKONOMICHESKAYA GAZETA in Russian No 34, Aug 82 p 18] 9978

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## PIPELINES

### PIPELINE CONSTRUCTION PROGRESS REPORT GIVEN

#### Accelerated Work at Pipeline Described

Moscow IZVESTIYA in Russian 19 Aug 82 p 2

[Article: "Acceleration of the 'Worker's Relay Race'"]

[Text] "To be on the route without a 'route card,' is like being at sea without a compass," we were told in the Glavtruboprovodstroy [Main Administration for Construction of Oil Pipelines and Pipelines] before we went to the construction section of the Urengoy-Uzhgorod gas pipeline and delivered the pleated multiple-meter schedule card.

But the "route card" is not only a compass, but a type of barometer of the route. It has lists of fulfillment of different types of work, their sequence, schedules, routes for shipping freight, etc. It also is an indicator of different obstacles: swamps, ravines, streams. Therefore the "route cards" can always be seen in the jacket pockets of the foremen, on the walls of the construction headquarters, in specialized administrations and trusts. If the data for all production lines was summarized this morning from the famous Urengoy field to the western boundary of the USSR near Uzhgorod, then it would turn out that for 4,465 km of future transcontinental trunkline, over 1,260 km have already been welded into lengths which are then installed into a single length, and the extent of the continuous connected lines has reached 500 km.

We have to give credit to the selfless labor of the Siberian workers. They are now intensively preparing for the crossing. A decisive storming will begin here when the frost, which is not too far off already for these areas, freezes the impassable abyss of the Tyumen swamp. The collective of the Transcaucasus administration of construction of pipelines "Soyuzintergazstroy" also deserves a good word. They recently began laying the gas pipeline at the most western section, in the Transcarpathians.

Work is successfully being done at the central section of the construction of the unique gas trunkline. Precisely here, from the Volga to the Yel'yets and farther from the ancient city of Lebedin to the Zadneprovskiy Mironovka, collectives are working which are included in Glavtruboprovodstroy, the initiators of socialist competition in honour of the 60th anniversary of formation of the USSR.

the factory, as well as the famous anniversary of the century of the Soviets with a good token gift was placed by the group workers of "Krasnoluzhnyk" almost a year ago, when with an efficient, fully equipped, in the previous century, "Krasnoluzhnyk" and "Krasnoluzhnyk", then the collective of one of the production lines from the trust "Krasnoluzhnyk" successfully adapted a high and stable rate, a kilometer of finished pipeline per day. This rate made it possible to complete ahead of schedule the entrusted work and to release to the "Krasnoluzhnyk" route ahead of schedule.

The leadership of the trust took workers in the socialist competition and was reinforced by intensive commitments of the collective from the trust "Krasnoluzhnyk", adopted in response to the decisions of the May (1982) Plenum of the CPSU Central Committee to the decree of the CPSU Central Committee and the USSR Council of Ministers which approved the pilot initiative of a number of collectives to guarantee timely delivery of the "Krasnoluzhnyk" gas pipelines.

Taking into consideration the special importance of increasing shipments of natural gas for production of mineral fertilizers, gasification of rural populated areas, improvement in supply of the enterprises of the machine-building complex, and also taking into consideration the international significance of the "gas-pipes" contract, the builders went their work to complete the work ahead of schedule on two super-powerful gas pipelines, "Krasnoluzhnyk" and "Krasnoluzhnyk". At the first of them, it was decided to produce almost a thousand-kilometer section by the end of the third quarter of this year instead of the fourth and of the second gas pipeline, to fulfill all operations on the "Krasnoluzhnyk" route by the fifth anniversary of the formation of the CPSU, and not later than as stipulated by the plan.

What are the main works getting the additional forces, and what new projects are being made for and put into operation?

"To go to one direction means in part, but total them into one," says the head of one of the production lines L. Kuznetsov, "then our common projects will come, we will live in the concentrated interaction of all the sections of construction, in the 'worker's relay race'."

The party and union agencies of the republic and oblasts through whose territory the route of the gas trunkline lies have made an enormous contribution to the general work. Setting up the sections for the line and of the condition and its surface facilities, the route cities and communities, the party organizations, the shipment of pipes, daily help in construction of the daily work of the builders, this is far from a surprise that in the urgent work that the Councils of People's Deputies of Chuvashia, Bashkortostan, Tatarstan, Lipetsk and other oblasts had to do in a short time. The collectives of the "Krasnoluzhnyk" are now working on these projects.

No, it is not so easy even with the enviable mobility of the route workers to rebase with all of the complicated equipment from one route to another. The head of the section of welding-installation trust Valentina Yakovlevna Belyayeva knows this well. In the last five years she and her friendly collectives have laid gas pipelines in the republic of Komi, then in the Tyumen Oblast, then in Bashkiriya. Now the new assignment is Uzhovka, which is in the very south of the Gorkov Oblast.

The daily life of the field city has not yet been completely built up, and here Belyayeva has high requirements, but work on the route is already going at full speed. Of the 118 km of pipeline that this collective has to lay, almost 100 km have already been welded into sectional lengths.

At the upper reaches of the Don, near the station of Stanovaya, on the shores which are overgrown to the very edge of the water with dense osier, a front of work is beginning entrusted to the trust "Shchekingazstroy." This collective has also adopted increased commitments.

"By the anniversary of the Great October we will lay 53 km of trunkline," these are the words of the brigade foreman of welder-installers Ye. Mestoivanchenko.

Butt-joining of the length goes round-the-clock in the leading brigade. On the first day the installers connected a kilometer into a length. They have been holding this rate for three weeks already. The lengths welded at the field base by the brigade of F. Mikhavlov are continuously brought in by the drivers of the pipe carriers N. Teterin, S. Rodin, N. Skoropupov, and N. Skobeltsin.

At the leading collectives of the sections which are building the gas pipeline, the obligation has been set of mastering the new equipment, conducting a set of experiments for further improvement in labor productivity, and improving organization of work. Thus the Chuvash section of the trunkline has become a unique test site for the new welding unit which was created by the scientists of the Institute of Electric Arc Welding imeni Ye. O. Paton.

The organizational-economic experiment which is now being conducted in four collectives of the Glavtruboprovodstroy is no less important. These lower production subdivisions were the first in the Ministry of Construction of Oil and Gas Industry Enterprises to switch to the Shchekinskiy method and with all the available staff, including the production and service personnel, began to count on finished, quite complete products, welded, insulated, laid, filled kilometers of pipe ready for testing.

The collective of the line where the experiment is being conducted is working on a single start-to-finish contract which includes a progressive system of wages not only for the workers but also for the engineers and the technicians.



The members of the special coordination counsel in the AUCCTU set up at the central construction sites of fuel power engineering, the main gas pipelines Urengoy-center of the country and export gas pipeline Urengoy-Uzhgorod recently became acquainted in detail with these and many other innovations which are now being introduced at the route. At the next out-of-town expanded meeting of this council which took place in Kuybyshev, representatives of 29 ministries and 17 sector trade unions signed a contract "worker's relay race." Each department, institute, and organization participating in the construction of the gas trunkline has adopted specific high commitments.

"Unfortunately," notes the head of the trust section "Soyuzgazspetsstroy" S. Muzhev, "the enterprises and organizations of some ministries, in particular the USSR Ministry of Construction, have still not rearranged their work in the spirit of the increased requirements."

The organizations of Glavstroykonstruktsiya [Main Administration for Production of Construction Parts and Structural Parts] of the USSR Ministry of Construction (head of the central board Yu. Mukhin) for laying the gas pipeline in the swampy and overflooded areas must supply this year to the route including the Glavtruboprovodstroy 56,000 m of reinforced concrete weighting compounds. Actually the builders have barely received a quarter of this quantity. The Glavverkhnevolzhskstroy [Main Administration for Rural Construction in Regions of the Upper Volga] (headed by A. Kuznetsov) has fulfilled its commitments especially unsatisfactorily.

Having taken an excellent start on the route of the export gas pipeline Urengoy-Uzhgorod, the collective of many thousands of the Glavtruboprovodstroy is not forgetting that another important trunkline has not yet been entered into the archives of the "route cards", the Urengoy-Novopskov, the starting trunkline of this year. This is why grouping of the rear forces is now taking place in the subdivisions of central board. At the Novopskov trunkline, final operations are being completed which the builders are doing together with the collectives of the completing organizations. As this route is built up, the released subdivisions will be sent to the trunkline Urengoy-Uzhgorod.

#### Local Pipeline Progress Reports Given

Moscow IZVESTIYA in Russian 19 Aug 82 p 2

[Text] From the Operational Summary of the USSR Ministry of Construction of Oil and Gas Industry Enterprises for 18 August 1982

At the Urengoy-Uzhgorod trunkline the following work has been done:

Pipes received	-2,500 km
Route cleaned	-1,500 km
Trenches dug	- 320 km
Welded into sections	-1,260 km
Welded into a length	- 500 km
Insulated and laid	- 300 km
Daily pace of welding into lengths	- 15 km



#### Chaykovskiy

With each day the rates of construction of the first compressor station for the export gas pipeline Urengoy-Uzhgorod in the Perm Oblast increase. The noise of machines and mechanisms at the construction site does not diminish round-the-clock.

Each daily assignment ahead of schedule! This is the initiative of the brigade of S. Sulagayev from SMU-4 of Votkinskgestroy. This collective is involved in installing the concrete for the compressor station, and the young fellows know that they need to finish their work before the onset of autumn season of bad roads.

#### Gor'kiy

The builders working near the oblast center of the capital Order of Lenin trust "Mosgazprovodstroy" are fulfilling their commitments with honor for early completion of their entrusted 100-kilometer section of the Urengoy-Uzhgorod gas pipeline. Already 52 kilometers of trunkline have been welded into a length. The collective of the comprehensive line headed by A. Buyankin is excellent.

#### Sumy

Round-the-clock, in three shifts, the builders of the Sumy section of the Urengoy-Uzhgorod gas pipeline are working. They are working under the light of searchlights, car headlights and are persistently progressing forward. The brigades of operators of semiautomatic welding units from the trust "Krasnodartruboprovodstroy" have excelled in the competition.

#### Urengoy

Preparation for reception of the first construction-installation teams from the Moscow trust "Soyuzgazspetsstroy" on the main section of the export gas pipeline has begun. Under conditions of permafrost and swampy tundra here, starting from the zero point, they are faced with laying 113 km of trunkline.

#### Work at Novopskov Section Winds Up

Moscow IZVESTIYA in Russian 19 Aug 82 p 2

[Article: "Hot Days Of Work"]

[Text] When we came to the welding base where the brigade of A. Kostyrev was working, it was noon. An unbearable intense heat came from the black thick-walled pipes almost 1.5 m in diameter, from the whitish sandy area, from the tractors creeping near by.

"An unusual summer," said the brigade foreman smiling tiredly, and wiping sweat from his forehead. "Very hot, in the direct and figurative sense. We are welding lengths for the gas pipeline Urengoy-Uzhgorod. The pipes of domestic production are coming in continuously so that the brigade is working by shifts round-the-clock. We have a honorable assignment: prepare no less than 80 km of 3-pipe sections for the export trunkline. I am confident that we will cope."

The collective which is headed by Andrey Stepanovich, is one of the best in the trust "Severtruboprovodstroy." Team leaders P. Nazarov and V. Golov, semiautomatic machine operator Yu. Dolgikh, machine operator V. Naumenko, and welder L. Semenikhina have been hardened by the burning storms and tested by the freak summer circumpolar weather. Now the weekly plan of the brigade is 3.5 km of lengths. They are taking 4-4.5 km from the shelves.

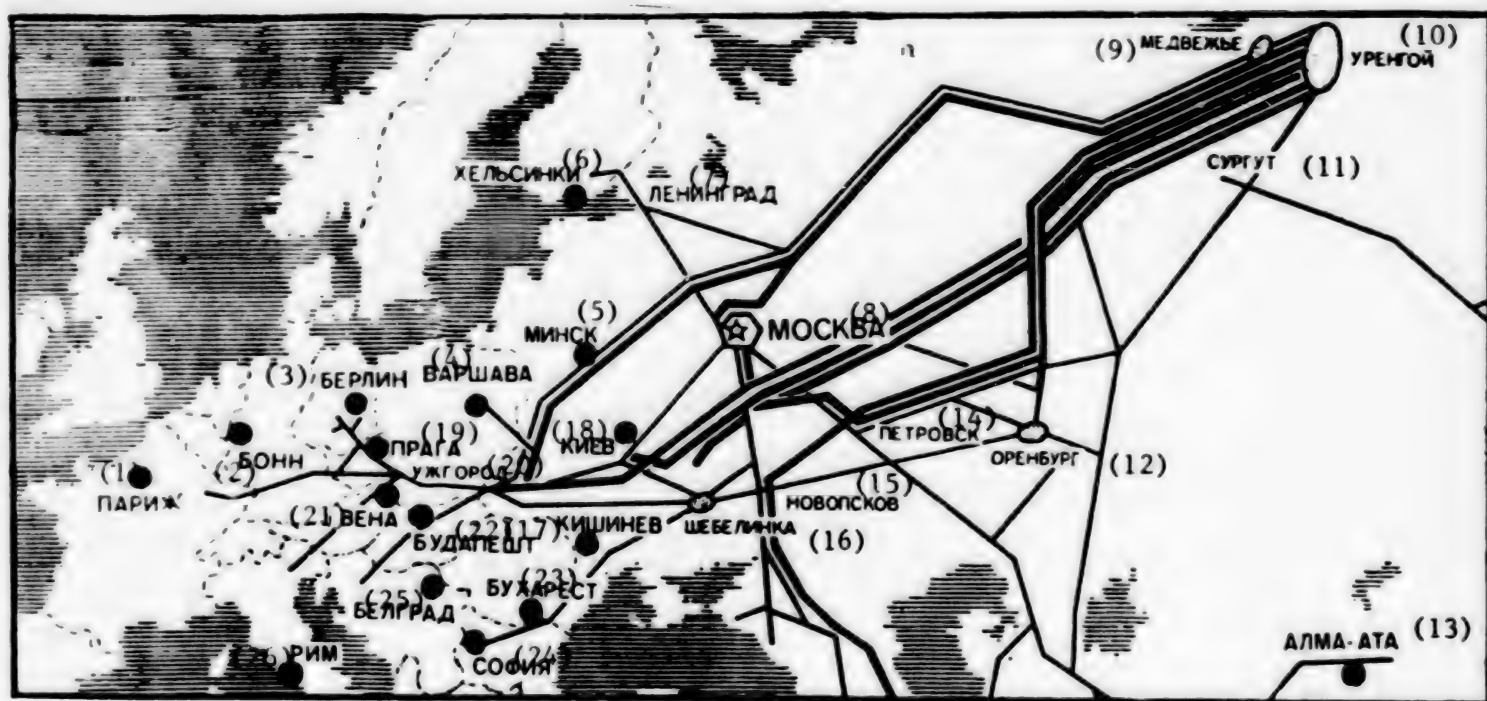
"What is your further path," I asked the head of the trust P. Shabanov.

"Soon we will ship to the route on a new road," answered Pavel Pavlovich. "Nevertheless I would like to stress that the main unusual aspect of this summer was not the abundance of sunny days, but the fact that all of our work essentially lost its seasonal nature. Usually in this time the majority of people are on vacation, work has died off, but now... You will soon see for yourself. For example, the welding-installation brigade of USSR State Prize laureate Boris Pavlovich Diduk is conducting the line operations. In the region of the compressor station "Pravokhettinskaya" it has already welded into a length about 10 km of gas pipeline of Urengoy-Uzhgorod. When the column is halted by swampy sections, everyone works to lay a road and then move forward again."

Within several hours we flew together with the senior dispatcher of the trust E. Arkhipov and member of the party office V. Solodyannikov above the facility of primary importance, above the 60-km approach road from Nadym to this "corridor," where the gas pipeline Urengoy-West Europe will be laid. It was quite obvious from the helicopter that the yellow line of sand fill was interrupted from time to time.

"Here are the lowest places," E. Arkhipov yelled through the hum of the engine. "But soon we will overcome them. You see how the chains of dump-trucks are moving? Here is the crossing over the Long-Yugan. One pontoon is ready. Soon the second will be brought in. Then the pipe carriers will travel on the road to the Uzhgorod route. By the way here it is."

This new "corridor" which was very narrow from the height of a bird's flight intersected the broader lines where several lengths of the active trunklines had already been laid and work had been completed on the Urengoy-Novopskov line. The commander of the crew indicated with his finger downwards and the helicopter sharply turned for a landing. Soon we landed near the place where the column of V. Volkov was conducting insulation operations.



KEY:

1. Paris
2. Bonn
3. Berlin
4. Warsaw
5. Minsk
6. Helsinki
7. Leningrad
8. Moscow
9. Medvezhye
10. Urengoy
11. Surgut
12. Orenburg
13. Alma Ata

14. Petrovesk
15. Novopskov
16. Shebelinka
17. Kishinev
18. Kiev
19. Prague
20. Uzhgorod
21. Vienna
22. Budabest
23. Bucharest
24. Sofia
25. Belgrad
26. Rome

The conversation with Valdimir Aleksandrovich was short: time was dear. The brigade foreman said that they are completing work on this section, it only remains to insulate about a hundred meters.

"And then?"

"Then we will rebase to the export trunkline."

V. Volkov named the best in his collective: V. Khizhuka, N. Kupriyenko, V. Permyakov, and returned to the column. Six powerful pipelayers, listening to his signal, raised the pipe above the ground. The bobbins of the insulation unit began to turn, covering the steel body with a glistening protective film.

The specialists of Glavsibtruboprovodstroy have to lay almost a thousand kilometers of the Urengoy-Uzhgorod gas pipeline on the territory of the Tyumen Oblast. More than half of the route has been cleaned, dozens of kilometers of lengths have been brought to the site of construction, welding of pipes into a continuous line is under way. New trailer cities have appeared on the line. In all the subdivisions, the people are working with great intensity, having firmly decided to lay the important trunkline earlier than the schedule.

#### Welding Operations on Schedule

Moscow IZVESTIYA in Russian 19 Aug 82 p 2

[Article: "Steps Toward The 'Red Junction'"]

[Text] I first had the opportunity of meeting with the gas builders of the Kursk section of the Urengoy-Uzhgorod trunkline at the end of March of this year. At that time near Shchigrama, on the outskirts of the ancient Russian settlement of Okhochevk a section of the forth construction-insulation administration from the trust "Krasnodartruboprovodstroy" spread its holdings. The people of Krasnodar created the first production line on the entire 339-kilometer segment of the gas route from Yel'yets to Sudzha.

Less than five months passed and the entire appearance of the section was unrecognizable. Now not only in the middle, but on both flanks well-built cities of the gas builders have developed. One of them is at the regional center of Dolgoye at Orlovshchina, and the other in the city of Sudzha, on the south west margin of the Kursk Oblast. Now all three production lines have been included in the work which at the end of 1983, in precise correspondence with the schedule for construction of the gas trunkline of the century, will weld their "red junction" on the Kursk section.

The path to it will not be easy. The builders are faced with crossing the rivers Seym, Kshen' Tim, Olym, and covering over a dozen roads, including the superhighway Moscow-Simferopol and Kursk-Voronezh, railroad lines and over two dozen high-voltage power transmission lines, removing about two million m<sup>3</sup> of land and welding over 35,000 butt joints, constructing several gas pumping stations, of which the primary are the Kursk and Cheremisinovo.

The ispolkom of the Kursk Oblast Council of People's Deputies has made a decision to remove land for construction of all the objects of the Urengoy-Uzhgorod gas pipeline on the territory of the oblast. Now engineering preparation is being completed here for production of the line operations. They are faced with recultivating about 300 hectares of pasture land. This is none other than the famous Russian chernozem. Therefore the builders very accurately remove the fertile layer of soil in order to return it completely and in a preserved state to the corn-growers.

Work has developed at the pipe-welding bases in Dolgiy, Okhochevka and Sudzha. Having been included in the "worker's relay race," the gas builders are striving to enter a rigid rhythm of the route workers: everyday one kilometer of finished product.

"Although we only began welding the lengths in June," relates the head of the Sudzha production line I. Sapozhnikov, "over 200 km of pipes have been welded into lengths and about 20 km have been extended into a line at the site of the future trench. Now from our previous base at the gas pipeline Urengoy-Novopskov near Voroshilovgrad the main forces of builders of the second construction-insulation administration from the trust

"Rostovtruboprovodstroy are being transferred with all the necessary equipment. In the first half of September, we will begin to dig the trench, and then lay the pipes. Our complex is faced with producing 130 km of gas pipeline on the Kursk section."

Over 60 km have already been welded into lengths at the Kursk section, and about 30 km of pipes have been extended into a line. The task of welding, insulating and laying into the trench no less than 120 km of pipes this year on the section from Yelets to Sudzha is being successfully resolved.

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## PIPELINES

### PIPELINE CONSTRUCTION REPORT GIVEN FROM CHUVASH ASSR

Moscow PRAVDA in Russian 23 Jul 82 p 1

[Article by Yu. Knyazev, outside correspondent of PRAVDA: "In a Unified Rythm"]

[Text] Chuvashiya has had a lot of rain this summer. Heavy-freight machines with enormous pipes are persistently traveling on soggy roads. Pipes are being welded into a seemingly infinite metal length. At the current section of the trunkline Urengoy-Uzhgorod, the first kilometers of pipeline have been laid in the trench. The work is being done not far from the picturesque right bank of the Volga. Builders come here every day from the field city which was set up almost in the very center of Cheboksar.

Among those who are working on the route, there are such veterans as bulldozer operator F. Kulakov, leader of the comprehensive brigade N. Tregubov and others. Many large construction sites and many geographical zones are behind them. Many young people are also working on the route. The veterans are patiently and skilfully educating the young people and giving them their experience.

This section is 127 kilometers long. They are difficult kilometers. The local relief is complicated, there more than 60 ravines, gullies and streams on the route. Swampy areas and 13 roads, as well as 2 railroads have to be covered. The republic is carefully watching the course of work entrusted to the trust "Kuybyshevtruboprovodstroy." The construction site is of special interest because here an important large-scale experiment is being conducted which in the opinion of the specialists will promise many advantages.

The words "line," "line method" as applied to construction have long since become customary and every day. However here the word "line" has acquired a new sound. The integrated production line is the name for the new general

contracting construction organization created in the framework of the trust for operation on the route. Staffs have been defined, a system of payment and bonuses has been developed aimed at the final result: completion in the shortest time of pipeline completely prepared for testing on the entire section, laying of the pipes in the trench must be completed by the 60th anniversary of the formation of the USSR. This has been especially noted in the socialist commitments of the collective of the new subdivision and the entire trust.

"The standard mobile column in a year generally produced no more than 100 kilometers of pipeline. The integrated production line should significantly exceed this indicator," notes the head of the planning section of the trust L. Simanovskiy.

The collective of the integrated production line has been entrusted with earth operations including removal of the fertile layer, making of trenches, and filling and recultivation of the ground. Behind them are also the welding-installation, insulation-laying operations, blowing through and testing of the pipeline. Now there are more potentialities for maneuvering equipment and people, and making the maximum use of the machine equipment which the builders are armed with. The people are not looking for "more suitable" assignments, all are interested in final results.

The senior foreman Yu. Semenyuk said:

"I have had to work more with excavating operations. What was it like previously? We could separate from the main forces, and 'drive' the trench. At that time the workers involved in laying the pipes were lagging. Now neither the length of the trench nor the number of removed cubic meters of ground determine our work, but the kilometers of route ready for testing. The interest in plurality of occupations has increased, and there are more potentialities for this. Now our excavators when needed, come to help the brigade which is doing the insulating operations. Many are now 'universal', because life itself requires this."

"Of course, it is still early to summarize the experiment," the chairman of the trade union committee of the line D. Yablokov shares his thoughts. "But the first results are promising. In June the collective laid more pipes than planned for the assignment. In July and August the plans were even more intensive. We have great hopes for the 'worker's relay race.' A contract has been concluded on the principle 'from mutual claims to mutual help.' It was signed by the brigades which are included not only in the line, but also in the subcontracting organizations which guarantee shipment of pipes and welding of the sections."

The builders of the gas trucklines also have concepts: "weekly spacing" "daily spacing." This concerns the next hundred meters or kilometers of pipeline laid into the trench. The task has been set: guarantee daily spacing of 1 kilometer, and weekly of 6 kilometers. The efforts of the collective have been aimed at achieving these difficult frontiers. In the opinion of the head of the line L. Mikhel'son, it is necessary to strengthen the repair base of the new construction organization. The

interactions of different subdivisions must be more accurate. Reliable modern communications must play a large role here. Now one can communicate from the office of the line without interference with the Kuybyshev trust, but it is difficult to do this with the route and with the commanders at the sites.

At first it was also difficult to overcome the psychological barrier. Old habits, and fixed ideas about methods of working and managing were broken. Other builders have mistrust and lack of confidence in innovations. Not everything was adjusted for taking measures to encourage the people. The following deficiency was also noted: no flags of labor glory, no board of indicators, no stands with pictures of winners of the competition were found either in the field city, or on the route, or at the sections.

I visited one of the bases where pipes were being welded into sections 40 meters long. "We have organized our welding operations in 2 shifts, and we understand our responsibility," said the foreman Z. Ostapenko. "We hear on the radio and read in the newspapers about the attempts of the U.S. administration to make it difficult to create the superlong trunkline. Vain attempts!. The trunkline will begin to supply Siberian gas at the designated time. We have powerful equipment. Now we are testing a new welding unit. We are trying to do everything so that the pace of the builders laying the trunkline will become more expanded from day to day."

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CSO: 1822/250

## PIPELINES

### PIPELINE WORK OF ARMENIANS DESCRIBED

Yerevan KOMMUNIST in Russian 31 Jul 82 p 1

[Article by A. Shkulev: "Intensive Rate"]

[Text] The route of the transcontinental trunkline of the Siberian-West European gas pipeline extends 4,650 km from the distant polar Urengoy to the western boundary of the USSR. The builders of the Transcaucasus administration of pipeline construction "Soyuzintergazstroy" which was registered in the capital of Armenia, Yerevan, arrived at the final section of the route in the Transcarpathians in the beginning of 1982. They have been entrusted with laying part of the unique export gas pipeline through the Carpathians extending 225 km. Our story is how this unusual construction is going.

The Armenian builders began work with a wide scope. They first thought of organization of daily life, for excellent daily life is a guarantee of high labor productivity. On the picturesque slope of the settlement Yasen, a well-built route city was built with maximum conveniences and comfort. One hundred and twenty trailers with televisions and refrigerators in each were set up in it, a club, cafeteria, bath and free barber shop were open. There is electricity, water and sewage. Having set up daily life, reception stations were organized for freight for the closest railroad stations. Welding-installation base was built and an assembly was created for rapid communication with helicopter, teletype and telephone. At the other end of the route, at the settlement Russkiye Komarovtsi, a second worker's settlement was set up and equipped just like Yasen, for 200 people. Only after this did the collective of workers start to develop their section of the route: they made a clearing in the woods, installed a "shelf" on the steep slopes of the mountains, and built roads near the route. As soon as the steel pipes of diameter 1420 mm with plant insulation began to arrive, welding of them into 24-meter lengths was organized. Parallel work was set up to dig trenches. This made it possible to immediately lay the finished sections of pipeline in them and to fill them with dirt.

Laying of the gas pipeline is being done by two enlarged comprehensive production lines equipped with workers of different specialties. The daily "pace" of the line is one kilometer. This indicator was achieved by the Armenian builders at the gas routes Urengoy-Petrovsk and Urengoy-Novopetrovsk. Having found out about the provocative attempts of the U.S. administration to influence the rates of laying the gas pipeline Siberia-West Europe, they adopted an increased commitment: not only to guarantee a kilometer "pace" on the new route, but even to surpass it. The word of the Armenian builders is already being transformed into action.

The production line has begun its march to the west, to the Czechoslovakian border from the starting point of the Bogorodchan compressor station. The line is lead by the head of the SU-1 Samvel Gevorgyan. The production line headed by Mus Gambaryan is moving to meet him from Uzhgorod. They are faced with passing through the territory of the Ivano-Frankovsk, Lvov, and Uzhgorod Oblasts and to cross the complex relief of the mountainous locality with steep elevations and descents, flooded sections and swamps, cross many rivers, streams, railroads and highways, and irrigation canals.

Armed with powerful modern welding, excavating and pipe-laying equipment, the gas builders are confidently increasing their rate.

In the dispatcher ZUST in Yerevan, the teletype issued the next information regarding the situation in the Transcarpathians at the end of July. It said: 27 km of trunkline have been welded, 15 km of trenches have been dug, 11 km of pipeline have been laid. But even this working rhythm is not the limit.

At the meeting in Ivano-Frankovsk, the workers and the specialist of the Transcarpathian Administration for Construction of Pipelines decided to lay 100 km of gas pipeline by the glorious 60th anniversary of the formation of the USSR, and to open the entire Transcarpathian section of the route by the end of 1983, 6 months earlier than the schedule. They appealed to the builders of the subdivisions of the USSR Ministry of Construction of Oil and Gas Industry Enterprises with a patriotic request, to complete all work on the great construction site of the five-year plan ahead of schedule.

For successful fulfillment of the adopted commitments, the Armenian gas builders have entered the socialist competition on the principle "worker's honor and pride" with the collective of the production association "Transeuropegaz". A contract of cooperation has been concluded and measures for mutual assistance have been developed.

The first team of builders from the German Democratic Republic recently arrived at the western section of the Transeuropean gas pipeline. They are faced with installing the compressor stations. "The arrival of our German friends," said the brigade foreman Arkadiy Arustamyan, "will multiply our efforts even more. Friendship and unity are a guarantee of our labor victory."



It is very important that a coordination headquarters for the construction site headed by the first secretary of the Ivano-Frankovsk party obkom I. I. Skib has now been set up in the Transcarpathians. Party supervision of construction will help to unify even more strongly the efforts and will give the competition under the motto "each kilometer of gas pipeline ahead of schedule!" a new scope.

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## PIPELINES

### PIPELINE CONSTRUCTION REPORT SENT FROM CARPATHIANS

Moscow IZVESTIYA in Russian 23 Jul 82 p 2

[Article by V. Vukovich, special correspondent of IZVESTIYA: "Gas-Pipes: Labor Acceleration"]

[text] On the route of the gas superpipeline West Siberia-West Europe we note yet another production base of its layers. It is now already in the Transcarpathians. It has spread its belongings not far from Uzhgorod, and more precisely, neighboring the settlement of the Russkiye Komarovtsy. The base is the recently created welding shop. Like all others, it is under the open sky, and in equipment it is a small plant.

Thus, the most western spring-board has appeared, for which construction of the finishing section of the underground trunkline will be built. It has been called upon to export the Soviet natural gas through the foreign boundry.

The first interview. It is held with head of the SU-2 of the Transcaucasus Administration of Pipeline Construction E. Gevorkyan:

"Our team of Transcarpathianbuilders of different nationalities was met well. They were given a comfortable place for their base. A small settlement grew up on it. It has 40 trailers with conviences. The first settlers live in it who came from different construction sites. They have a fighting mood. We would like to show with our intensive labor that despite the intrigues of the U.S.administration, the Urengoy-Pomary-Uzhgorod gas pipeline will be put into operation ahead of schedule."

"What work is now being done at essentially your most western section of the route?"

"I would like to note first of all that we already have a sufficient fleet of extraction equipment. It has powerful excavators and bulldozers. We are setting them into operation. We have started to cut the so-called 'sleeves' were the trenches will then be laid. Summer is a convenient time for excavating. We will try to use it as much as possible for the greatest benefit."

"What is the collective of the welding shop doing now?"

"Everyone is waiting with impatience for the railroad station of Perechin to begin to send pipes. They have already sent 11 kilometers. This means that we can start our normal operations making two pipes into one."

It should be said here that before the arrival of the builders in the Transcarpathians, a coordination headquarters was set up "worker's relay race." The party and soviet agencies, economic organizations of the oblast have shown the maximum attention to everything associated with laying the most important gas artery of the five-year plan.

"We are now at the height of assembly toil. Although it requires a lot of concern," says the first secretary of the Uzhgorod party raykom A. Chervinskiy, "the production base at Russkiye Komarovtsy comes first. We are involved in making roads to it and the questions of building it up. We have noted how to provide good cultural and general services. It has been decided that the nearest sovkhos will supply the gas workers with fresh vegetables. We want them to have all that is necessary for intensive labor."

It has been thought out that for accelerated laying of the steel artery the collective of builders who started in the Transcarpathians will move to meet their colleagues in the Ivano-Frankov Oblast. Pleasant news comes from here which inspires the machine operators and installers working here. It seems that quite recently at Ivano-Frankov section everything began from the zero mark, and now 20 km of pipe have already been welded and some of them have been lowered into the trench. The competition under the motto "each kilometer of gas pipeline ahead of schedule" has a new influx of forces. From here follows the reality of the adopted commitment: produce the 128-kilometer section a month ahead of schedule.

There is yet more news. Again it comes from the Ivano-Frankov section of the route. The first team of builders from the German Democratic Republic have arrived here. They are faced with doing a lot of work: building three gas compressor stations and laying the segment of the line section of the pipeline. The German comrades have assured us they will fulfill the entrusted assignment with honor.

The Carpathian part of the international gas pipeline is not short in length or easy in working conditions, but it is being built in a precise working rhythm.

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## PIPELINES

### COMPRESSOR STATION CONSTRUCTION COMPLETED AHEAD OF SCHEDULE

Moscow KOMSOMOL'SKAYA PRAVDA in Russian 14 Aug 82 p 1

[Article by I. Lomakina, engineer of "YuzhNIIgiprogaz," deputy secretary of the Komsomol Committee: "The Work Succeeds"]

[Text] In August, the collective of "YuzhNIIgiprogaz" will give its documents for compressor stations on the Urengoy-Uzhgorod gas pipeline.

"There remains until the time for giving the set of documents for the compressor station 'Pravokhettinskaya'..." Every day, starting work, we see this poster on which the numbers are changed. The compressor station is named after the Khetta River in the Tyumen North. It is one of the objects of the export Urengoy-Uzhgorod gas pipeline. Now is the time when we, the designers, reach the finish line. In August the institute should provide sets of documents immediately for four compressor stations.

KOMSOMOL'SKAYA PRAVDA has already reported the initiative of the collective of the Donetsk institute "YuzhNIIgiprogaz," the general designer for the export gas pipeline, for early delivery of the planning documents. Increased commitments is our response to the American ban of shipments of technological equipment for the gas pipeline. We are redesigning the compressor stations in short schedules from imported to domestic equipment. Three days ahead of schedule, on 23 July, the documents were issued for the "Ivdel'skaya" compressor station. The next are "Verkhnekazym'skaya," "Priozernaya," "Pravokhettinskaya" and "Urengoyskaya." The institute should transfer all the drawings before 25 August. The course of the work indicates that we will undoubtedly cope with the assignment. The Komsomol organization "YuzhNIIgiprogaz" is mobilizing the young designers for an even greater reduction in the planning periods.

The young engineers have been entrusted with complicated parts of the design. For example, Irina Boltenko together with other young designers is involved in technological correlation of the gas pumping unit of the Sumy plant for "Pravokhettinskaya" compressor station. Tat'yana Silich, a member of the committee of the institute Komsomols, and an engineer in automation has complicated work. She makes in the drawings the correlations of the imported control panels with the domestic equipment.

Our committee of the Komsomols recently decided to appeal to the planning and scientific research organizations of the Ministry of the Gas Industry in different cities of the country with the suggestion to conclude a contract for cooperation in terms of patronage over construction of the Urengoy-Uzhgorod trunkline. The purpose is to produce the planned documents on time and ahead of schedule for the entire gas pipeline branch from Tyumen to the western boundry. Through KOMSOMOL'SKAYA PRAVDA we are bringing this appeal to all designers and researchers in the sector.

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## PIPELINES

### PIPELINE CONSTRUCTION STARTS AHEAD OF WINTER SEASON

Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 19 Aug 82 p 1

[Article by V. Gokhfel'd, engineer of Glavsivtruboprovodstroy: "Without Waiting for the Light Frost"]

[Excerpts] The main construction season in the Tyumen taiga is winter, but the subdivisions of Glavsivtruboprovodstroy even now are beginning to lay the 852-kilometer section of the Urengoy-Uzhgorod gas pipeline

The first time I saw these areas was from a helicopter on which the leaders of the trust "Priob'truboprovodstroy" flew around the route, determining the sections for summer operations, for setting up residential cities. This was last spring when the main forces of the trust were focusing attention on the Urengoy-Novoposkov trunkline. But the new construction site, as it turned out, was already striding along the northern Ob region. This was indicated by the clearings in the dense bristle of the taiga: the collective was preparing the path for the installation columns in advance.

When the Kazym stream began to wind down below, the head of the trust I. Sukharev, tearing himself away from the window, called over the head of SU-20 A. Kartashov and indicated with a gesture: here they will land. Below were dotted trunks of a pine forest.

Now camptrailers stand in the taiga in rows, dormitories, cafeteria, bath and repair shop are being built. But the main concern of the residents of Yubileyniy (this is the name of the city on the Kazym) is the route.

"Before winter we plan to make 30 kilometers of pipeline, one-third of our assignment for construction of the export trunkline," relates the deputy head of the administration V. Yelfimov. "This is not easy. The only path to Yubileyniy from the base settlement is a river, and it became shallow at the beginning of summer. It is true that we succeeded in bringing in pipes, equipment, and fuel, but a lot is scarce. Nevertheless, the route is already living."

It was right. A whole production complex is now operating. The road workers are lining the streams and swamps with beams, the machine operators are following behind covering the log roads with sand. The

powerful "Krazs" are "spreading a chain of pipe sections on the clearing. The installers are connecting them into a line. The insulation-laying column is preparing to begin. And in the city all the new steel lengths are rolling out of the pipe-welding base day and night.

"I believe that by the end of the month we can make 12 kilometers of line instead of the planned 10."

"We will mandatorily do it!" backed up the brigade foreman I. Koryagin, a communist, the most experienced welder. "We will complete the route ahead of schedule in defiance to the transoceanic enemies!"

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## PIPELINES

### PIPELINE CONSTRUCTION BOOK REVIEWED

Moscow GAZOVAYA PROMYSHLENNOST' in Russian No 6, Jun 82 p 44

[Review by L. G. Telegin and M. S. Fedorov, Moscow Institute of Petrochemical and Gas Industry imeni Academician I. M. Gubkin, Ministry of the Gas Industry, of the book "Dinamika trudovykh zatrat pri stroitel'stve truboprovodov" [Dynamics of Labor Outlays in Building Pipelines] by L. D. Shor, Izadatel'stvo "Nedra", 1981]

[Text] In 1981 the publishing house "Nedra" published the book of L. D. Shor "Dynamics of Labor Outlays in Building Pipelines." It examines the development of technology and organization of line pipeline construction, as well as the characteristics of the employed machines and mechanisms in relation to labor processes and conditions for production activity. It is precisely this comprehensive examination of the technical progress and labor processes which is a characteristic feature and advantage of the book.

The book consists of six sections. The first four present technical-economic analysis of the labor intensity of excavation, welding-installation and insulation-laying operations, construction of junctions through natural and artificial obstacles, and in the final two sections makes an analysis of the influence of the organization of construction on conservation of labor outlays and reveals trends for growth in labor productivity.

Each of the sections opens with a detailed description of the retrospective development of pipeline construction equipment and organization of managing the work. In the 30 year period, the author has traced an improvement in the designs of domestic excavating, welding, installation, cleaning, insulating, load-lifting and other machines and mechanisms, rise in their productivity, improvement in reliability, economy, and improvement in the ergonomic characteristics. This technical-economic and historical survey which is based on original developments of the author, has been made for the first time. It is very important from the viewpoint of propaganda of the accumulated experience and achievements of an important sector in the national economy and may prove useful both for young workers and veterans.

The approach to the history of pipeline construction is also an effective procedure which made it possible to show the qualitative and quantitative shifts in the improvement in equipment, technology and organization of construction operations.

The section covering the improvement in excavating equipment and analysis of labor-intensity of excavation operations is important. Based on a technical-economic analysis, efficient spheres are revealed for using certain excavating machines. The expediency is shown of combining machines of high productivity with low, more maneuverable machines which improves flexibility of the technology.

The central place in the book is occupied by a section which treats the welding-installation operations, not only because of its extensive coverage, but primarily because of the special importance of these operations in the technology of building pipelines. The author has made a thorough analysis of the qualitative changes in the organization of these operations. Characteristics are presented for different methods of building which guarantee high labor productivity. It is shown that the future of welding main pipelines is associated with expanded volumes of use of electric-contact welding, the use of highly productive units of automated welding "Styk" and "Duga" pipe-welding bases of the type BTS and so on.

The section of the book regarding labor-intensity of the insulation-laying operations is useful and pithy. Data on labor outlays are presented for different diameters of pipelines, conditions of production and machines used in this case. Based on the conducted analysis of labor intensity of insulation-laying operations, the conclusion is drawn that an improvement in labor productivity will be attained by switching in broad scales to the use of pipes with plant insulation, and with traditional technology, by using machine-combines for cleaning and insulating operations, new and more effective insulating materials.

The workers of the gas industry are most interested in the analysis of the technical-economic indicators for underwater-engineering operations and operations to build junctions under roads and other artificial obstacles. The foreign experience of building offshore pipelines is also interesting.

In examining the questions of organization of labor, the author revealed high efficiency of building pipelines with enlarged technological highly mechanized complexes. The role is shown of auxiliary and servicing subdivisions whose inclusion in the unified production complex makes it possible to unify all the workers of a single production chain for the output of the finished commercial product. A considerable place in the book is given to reducing the losses of work time, standardization of labor outlays, improvement in wages, and the use of the brigade contract.

The book of L. D. Shor, encompassing the main circle of questions associated with analyzing labor outlays in building pipelines is useful for workers of construction, planning, scientific research organizations of the Ministry of the Gas Industry, Ministry of the Oil Industry, and Ministry of Construction and Gas Industry Enterprises, as well as students and post-graduate students of the corresponding specialties in VUZ's.

In preparing for the second publication of the book it is expedient to additionally examine repair operations at the main pipelines as the most important in improving the reliability of the gas-transport systems. Despite the common nature of technology of major repair of pipelines and new construction, there are considerable differences which should be reflected. This is especially important since reduction in labor intensity of major repair belongs to one of the most urgent problems.

It would also be desirable to expand the section of the book which concerns the construction and repair of underwater pipelines, especially when they are laid through extended and deep-sea obstacles.

In conclusion I would like to wish that the reviewed book of the second more expanded publication has a large audience.

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## PIPELINE S

### BRIEFS

**GAS PUMP PASSES TESTS--Leningrad--**The specialists equate the 200 hours that the gas pumping unit with power of 25,000 kW on the special test stand to 4 years of continuous operation. This the main sample of the new equipment which has been created in the association "Nevskiy zavod" imeni V. I. Lenin. Yesterday the most complicated stage of checking the machine was completed. It withstood the so-called heavy tests with increased loads accelerating the process of wear. "This is necessary for advance accumulation of data regarding the future behavior of the unit in operation, and detection of weak assemblies," said the chief designer of the association A. Kuznetsov. "GTN-25 has recommended itself as a reliable machine." The series manufacture of the gas pumping units which are designed for main gas pipelines will already begin this year. This the firm word of the Leningrad machine builders who were one of the initiators of the initiative approved by the CPSU Central Committee and the USSR Council of Ministers aimed at guaranteeing the timely start-up route of the transcontinental route. The scientists and designers of the city on the Neva are now beginning to design a gas pumping machine of even higher output, 40,000 kW. [Text] [Moscow SOVETSKAYA ROSSIYA in Russian 11 Jul 82 p 2] 9035

**GAS PIPELINE BUSES--Kurgan--**The product which was sent ahead of schedule from the Kurgan bus plant is designated for the builders of the Urengoy-Pomary-Uzhgorod gas pipeline. These are the so-called watch machines for bringing the brigades to the work sites. The gas pipeline is being laid through forest, mountains and swamps. Where there are no paths for standard passenger transport, the special buses made on the base of the powerful "Ural" with three drive bridges will travel. [Text] [Moscow SOVETSKAYA ROSSIYA in Russian 17 Aug 82 p 1] 9035

**ANTICORROSION COATINGS --Donetsk Oblast--**Lengthening the service life of the main gas pipelines of high pressure is the purpose of the set of anti-corrosion coatings for pipes constructed at the Khartsyzsk pipe plant. The protective innerlining of the tunnel furnaces has been completed here. The set is designed for output of 760,000 T of product per year. [Text] [Kishinev SOVETSKAYA MOLDAVIA in Russian 5 Aug 82 p 1] 9035

**POWER PLANTS COMPLETED**--The leading brigades of the association "Zvezda" headed by G. Fominykh and A. Vikhrov have outlined for themselves new frontiers of intensive work in honor of the 60th anniversary of the formation of the USSR: the collectives have been obliged to install ahead of schedule and to test two automatic power plants with output of 630 kW each for the building of the Urengoy-Uzhgorod gas pipeline. Two of these stations have already been sent to the Tyumen Oblast since the beginning of the year. A third unit will be ready before the end of the month. [Text] [Leningrad LENINGRADSKAYA PRAVDA in Russian 25 Jul 82 p 1] 9035

**PIPELINE GROWS**--Bukhara-Urals, Central Asia-center of the country--These are powerful gas pipelines which link Uzbekistan with the main economic regions of the country. The laying and start-up of these routes is an enormous contribution to the development and strengthening of domestic fuel and energy base. In the picture: laying of pipes of the gas pipeline on the section Shatlyk-Khiva. It will be connected to the main gas pipeline Central Asia-center of the country. [Text] Moscow KOTSLISTICHESKAYA INDUSTRIYA in Russian 10 Aug 82 p 1] 9035

**RAILROAD COMPLETED**--Tyumen Oblast--Laying of the rails for the 712-kilometer railroad Surgut-Urengoy has been completed. The track-layer arrived at the final point of destination, the city Novyy Urengoy. The new road connects the oil and gas extracting regions of the oblast with the transport network of the country. [Text] [Moscow EKONOMICHESKAYA GAZETA in Russian No 29 Jul 82 p 3] 9035

**CARPATHIANS REACHED**--Bogorodchany (Ivano-Frankovsk Oblast), 20 Aug--The complicated section of the route in the foothills of the Carpathians was traveled today by the builders of the Urengoy-Pomary-Uzhgorod gas trunkline. It took the brigade of R. Yemanidi two days instead of three to install the crossing through the underground gas pipeline "Sovuz" and the heavily traveled road nearby linking the oblast center with the resort of Yaremcha. Using a unit of horizontal drilling, the builders made a passage under the highway, and covered the underground piping passing nearby in strong metal casings. The cars only had to travel for several hours on the previously prepared bypass. During this time the steel pipe "crossed" at the assigned height the active gas pipeline, again went into the trench and passed under the road. The ground on the shoulder of the road was immediately reutilized. By using the experience accumulated in laying the trunklines "Sovuz," Urengoy-Novoposkov and others, the specialized brigades of the Transcaucasus administration of pipeline construction is working ahead of schedule in front of the main production line on the complicated section of the route. Competition developed among the builders under the motto "Each Kilometer of the Route Ahead of Schedule!" The main operation on the 60-kilometer segment of the gas pipeline, from the compressor station in Bogorodchany to the crossing over the Svicha River, is planned for completing by the 60th anniversary of the formation of the USSR. [Article by IASS correspondent K. Chavaga] [Text] [Yerevan KOMMUNIST in Russian 21 Aug 82 p 1] 9035

SEAMS WELDED--Orel--At the Orel section of the export pipeline Urengoy-Uzhgorod, the first kilometers of steel lengths have been welded. This was done by the brigade of A. Glukhov which has participated in laying several routes of blue fuel. The length of the Orel section is 112 kilometers. Laying of the gas pipeline is beginning already in this quarter, as outlined by the construction schedule. Work will be completed at the end of 1983, also strictly on schedule. [Article by Yu. Antropov, in-house correspondent] [Text] [Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 10 Aug 82 p 1] 9035

OIL PUMPING STATION OPENS--Tyumen Oblast--On the route of the pipeline Surgut-Polotsk, not far from the settlement of Yagodnove in the Kondinskiy Rayon, a powerful oil pumping station has been opened. The framework of this important facility glistening with light panels developed in the green sea of the taiga thanks to the cooperation of the Soviet and Czechoslovakian specialist. The production block-boxes were manufactured in the CSSR, and our builders were helped to assemble them into a single complex by engineers and highly skilled installers from this fraternal country. The start-up of the station will make it possible to increase the quantity of Siberian oil sent on the Surgut-Polotsk trunkline. [Article by Yu. Perepletkin, IZVESTIYA in-house correspondent] [Text] [Moscow IZVESTIYA in Russian 10 Aug 82 p 2] 9035

UNDERWATER GAS PIPELINE--Construction of a new, eighth underwater gas pipeline of large diameter has begun from the promising field "Bakhar" to the mainland. The builders of the SMU-3 of the trust "Kaspmorneftegazstroy" have already laid three kilometers of concretized pipes. The remaining 42 km also have to be laid on the bottom of the Caspian, and then the pipeline will be brought to Karadag and connected to the active production sections of the Azerbaijan gas refinery. In competition for the worthy meeting of the 60th anniversary of the USSR, the brigades of Ivan Gazaryan, Boris Kasharenko, Nikolay Gurov and Vladimir Eston have achieved good indicators for the work week dedicated to the medical workers of the country. Using the equipment available on the specialized ship-pipe-layer "Suleyman Vezirov" the workers are achieving new output, as well as good work quality. The opening of the new pipeline in the next year will permit an increase in the output of the enterprise after its complete reconstruction by 25-30 percent. [Article by V. Tikhonov] [Baku VYSHKA in Russian 25 Jun 82 p 1] 9035

WEST SIBERIAN OIL ARRIVES--There is a holiday in Almetyevsk, the West Siberian oil has arrived. It arrived on the new oil pipeline which was laid from Perm which was constructed as part of the transcontinental pipeline in the system Surgut-Polotsk. The new trunkline will first of all make it possible to considerably improve the raw material supplied to the oil refineries of Povolzhye in the center of the country, and secondly, no less important, an additional part of the incoming fuel will supply the optimal load for the oil plant "Druzhba." The builders and installers have provided a good labor gift for the upcoming 60th anniversary of formation of USSR. [Article by I. Kuznetsov] [Text] [Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 11 Aug 82 p 1] 9035

PIPELINE CONSTRUCTION CONTINUES--Pomary, Mari ASSR--The builders of the Vengay-Pomary-Uzgorod gas pipeline have begun work on the section from Vyatka to the Volga. The panorama of intensive onslaught of the pipeline builders coming through the forest, swamps and rivers on the territory of the Kirovsk Oblast of the Tatar and Mari republics is clearly seen from the helicopter. The pipes of almost 1.5 meter diameter are coming here in echelons. They are welded at special bases into large lengths. Two intensive subdivisions are working, two comprehensive production lines. At all stages of the construction process, the brigade contract is being successfully used. "Powerful equipment is helping to accelerate the laying of the trunkline" says Hero of Socialist Labor I. Shaykhutdinov from the trust "Latnetteprovodstroy." We have excavators, heavy truck tractors, heavy bulldozers, multiple-ton pipelayers, units for horizontal drilling under railroads and roads. For the first time we are using the welding comprehensive unit 'Styk'; this is a whole combine which makes it possible to increase 1.5-fold the rates, and cut the workers in half." The construction site of the compressor station near the Mari settlement of Pomary has revived. Here planning of a section is underway, a road is being laid, and a mortar-concrete assembly is being set up. The field city made of trailers received the new settlers. The collective of the mobile mechanized column from Almet'yevsk is being helped by student construction teams, from Armenia. Precisely here the compressors of the pumping station will maintain the working pressure of the gas stream at 75 atmospheres. In this central point of the giant pipeline a well-built population area will grow up for the operators, two-apartment houses with gardens and yards, necessary social-cultural and general facilities, athletic structures, including a swimming pool. At the 230-kilometer segment laid by Tatar builders, they are faced with crossing a dozen and a half water obstacles. The most difficult of them is the Volga River. The crew of the suction dredge is working day and night. It is headed by B. Iskandarov. He is helped by the Kazan administration "Soyuzpodvodgazstroy" which sent another floating scoop. It is necessary to prepare a underwater bed in short time for the steel pipes 2 km long. The compressed schedule is active everywhere. It was compiled with regard for the fact that all the work on laying the first line should be completed by spring of next year. [Article by A. Sabirov, in-house correspondent of IZVESTIYA] [Text] [Moscow IZVESTIYA in Russian 23 Jul 82 p 1] 9035

SETTLEMENT ON ROUTE--Volgograd Oblast--The length of the gas pipeline "gaziz" extended almost 3,000 km. Billions of cubic meters of "blue fuel" annually arrive from the richest Orenburg field into the European countries of the CEMA. Twenty-two compressor stations have been created on the entire route, maintaining the working pressure in the complicated system. The stations have been equipped with them with today's most modern equipment. It naturally requires repair periodically. It will be done in the city of Lyskovsk of the Volgograd Oblast. Here the Czechoslovakian builders have teamed up with Soviet engineers and workers with the symbolic key from the new repair plant for repairing the gas pumping equipment. Construction of the residential-general complex of the enterprise consisting of several houses, two children's combines will also be conducted by the representatives of Czechoslovakia. This year already hundreds of workers and engineering-technical workers of the young enterprise will live in the new settlement. [Article by M. Verchba] [Text] [Moscow KOMSOMOL'SKAYA PRAVDA in Russian 23 Jul 82 p 1] 9035



GLASS PIPELINES--Gomel--New composite materials based on the efficient combination of polymers, metals, silicates, and wood have been created by the Institute of Mechanics of Metal-Polymer Systems of the BSSR Academy of Sciences. The sealing polymer protective composites are capable of withstanding corrosion in acid and other aggressive media. Their use in connecting gas and oil pipes, in the storage of precision elements of instruments indicated that they improve the durability of steel parts two-five-fold. The self-lubricating thermoplasts alloyed with special active additives operate reliably in friction assemblies of textile and agricultural machines and cars. From the results of work from the institute at the Gomel glass plant imeni M. Lomonosov, output of glass-polymer pipelines will be set up. [Text] [Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 15 Jul 82 p 2] 9035

PAVLODAR-CHIMKENT PIPELINE--In Karaganda a headquarters has been set up and has started to operate to supervise construction of the Pavlodar-Chimkent oil pipeline. This new pipeline will supply West Siberian oil to another place of its refining. The length of the route under construction is over 1,500 km. The headquarters has been set the task of all possible promotion of accelerated work at the route so that the line section of the pipeline will be opened simultaneously with the start-up of new facilities at the Chimkent oil refinery. The new trunkline will serve as a continuation of the oil pipeline laid from Surgut through Omsk to the Pavlodar oil refinery; together with its Omsk colleague it has already generated from the West Siberian oil many millions of tons of high-quality fuel and other petroleum products. All work on the route is integrated, done by the line method. The subdivisions of Glavtruboprovodstroy [Main Administration for Oil Pipeline and Pipeline Construction] have already welded hundreds of kilometers of pipes on their sections. [Article by I. Kuznetsov] [Text] [Moscow PRAVDA in Russian 22 Jul 82 p 1] 9035

PIPES FOR ROUTE--Khartsyzsk, Donetsk Oblast--The Khartsyzsk pipe plant has become a major supplier for the builders of the Brengoy-Pomary-Uzhgorod gas pipeline. Yesterday the shift of foreman Yu. Lyakh welded a pipe on which it was written "500,000 tons"; the amount of products the collective of the enterprise has manufactured since the beginning of the year. The workers of the plant are supplying the frost-resistant pipes of large diameter a month ahead of schedule. The acceleration was obtained by developing facilities in the new second electrical welding shop. In cooperation with the scientists from the Institute of Electric Arc Welding imeni Ye. C. Paton of the USSR Academy of Sciences, the pipe builders have introduced plasma cutting of metal, systems of remote tracking of the fulfillment of production operations, rotating devices which made it possible to weld seams at the same time on two pipes on the so-called "paired" variant. These and other innovations made it possible to significantly increase the output of products and improve their quality. The plant workers have been obliged this year to ship to the builders 50,000 tons of pipes more than stipulated by the plan. [Text] [Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 25 Jul 82 p 1] 9035



**PIPELINE BRIDGES—Kharkov—**Universal designs for housing and production rooms have been suggested to the builders of the Urengoy-Uzhgorod gas pipeline by the Institute of the Energetics-Industrial Institute. They have been developed in cooperation with GDR designers. By combining such systems, one can install a comfortable house for two people, a spacious dormitory or a whole settlement of the city type. These same elements can be installed in every building of compressor assemblies and power plants, garages and terminals at field airports. The strong frameless designs are tightly interconnected with the help of steel tie rods. Compact and light, they are convenient for shipping on helicopters, in tractor trailers and trucks. This makes them irreplaceable in developing the regions of the east and the extreme north. [Text] [Moscow IZVESTIYA in Russian 30 Jul 83 p 2] 9035

**CLAY CONSTRUCTION MATERIALS—Ufa, Udmurtia—**The collective of khimvolgazostroy considers participation in construction of the Urengoy-Uzhgorod export gas pipeline to be an honorable and responsible task for themselves. The enterprises of this territorial central bank are sending construction materials to the Siberian workers. This year the Udmurt association "Stroyindustriya" will supply the builders at the Urengoy-Uzhgorod truckline with 3,000 m<sup>3</sup> of freight for the pipeline. The plant of claydite-concrete items is preparing 2,000 m<sup>3</sup> of panels for erection of compressor stations at the export route. [Article by A. Farkov, PRAVDA outside correspondent] [Text] [Moscow PRAVDA in Russian 20 Jul 82 p 1] 9035

**MATERIALS LEFT—Saratov Oblast—**The imported equipment has been rusting for 4 years at the Aleksandrovo-Gayshiy compressor station in the Saratov Oblast. Bores with machines designed to complete the repair work of the station are standing under the open sky. Many of the them are broken and the machines are covered with rust. "What can we do?" the party organizer of the station G. Garbuzov makes a helpless gesture. "The area should have been built back in 1975. The equipment was bought by that time. It has been lying here since." "We have more important facilities," says the acting chief engineer of the association "Yuzovskiykhimvolgazostroy" T. Kaluzin. The builders refer to the fact that bores are not reinforced concrete structures and there are not enough cranes. In a word, they find many reasons to cover their shortcomings. This all with the knowledge of the USSR Ministry of Construction of Oil and Gas Industry Enterprises. Millions of state money were spent on buying the equipment. It can not be allowed that it is left in the wind. [Article by Yu. Sklyarov, working correspondent] [Text] [Moscow IZVESTIYA in Russian 28 Jul 82 p 2] 9035

**PIPELINE DIVERSION—Saransk, 26 Jul—**The builders of the Urengoy-Pechora-Uzhgorod gas pipeline are working intensively to build the section of the route passing in the territory of Mordoviya. Powerful trucks loaded with pipelines 3,420 mm in diameter pass from the railroad station to the construction site. Here they are welded into chains of three pipes each. The standards are covered from day to day by two brigades of welders headed by B. Prokhorov and N. Arkhipov. The schedule for welding operations, 20 lengths per day, is strictly held. The lengths of 15-meter length are distributed over the entire section of the gas pipeline under construction. Machine operator of

the excavator N. Gerasimov is distinguishing himself these days at excavation operations. The builders have decided to finish the section of the main gas pipeline passing through Mordoviya precisely on time. [Article by A. Shiryeyev, PRAVDA outside correspondent] [Text] [Moscow PRAVDA in Russian 27 Jul 82 p 2] 9035

PIPE WELDING--The first kilometers of pipes have been welded on the 400-kilometer section of the Urengoy-Pomary-Uzhgorod pipeline which passes through the territory of the Perm Oblast. In the piedmont Ural taiga, a 100-kilometer settlement has already been set up, and 4 gas compressor stations. All work on the route is being done ahead of schedule. On the Perm section, the excellent foremen from Tatariya, Bashkiriya, Novosibirsk and Chelyabinsk are working. [Text] [Moscow PRAVDA in Russian 12 Aug 82 p 3] 9035

PIPE CARRIERS--Baku--A batch of special pipe carriers for the builders of the Urengoy-Pomary-Uzhgorod gas trunkline have been sent ahead of schedule yesterday to the route by the collective of the plant "Bakinskiy Rabochiy." Each machine is capable of shipping pipe lengths weighing about 20 T. The decision for early fulfillment of the orders of the builders of the gas trunkline was made at a general meeting of the collective. The competition is headed by the specially organized comprehensive brigades of machine operators of high skill. Assembly of the machines has been entrusted to the best mechanics. [Text] [Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 5 Aug 82 p 1] 9035

PIPELINE COMPLETED--Almetyevsk--The last meters of pipes have been laid on the route of the ethane pipeline Orenburg-Kazan'. The length of the new route is 435 km. The line operations have been completed ahead of schedule over its entire length. The success was promoted by socialist competition in honor of the imminent 60th anniversary of the USSR which developed in the subdivisions of the trust "Nefteprovodmontazh," "Latnefteprovodstroy," "Vostoknefteprovodstroy," and "Vostokmontazhgaz." [Text] [Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 15 Jul 82 p 1] 9035

CSO: 1820/250

## GENERAL

### SOUTH YAKUTSK TERRITORIAL PRODUCTION COMPLEX

Moscow EKONOMICHESKAYA GAZETA in Russian No 36, Sep 82 p 18

[Article by M. Nikiforov and B. Sidorenko, EKONOMICHESKAYA GAZETA correspondents, city of Neryungri, Yakutsk ASSR: "The Formation of a Complex"7]

[Text] In the south of Yakutiya, the Neryungra River loops around the small cone-shaped taiga hills. You will not find this river on every large-scale map. But the city of Neryungri, which arose seven years ago on its banks, is now widely known. It has become the center of the developing South Yakutsk Territorial Production Complex. Concentrated here are enormous reserves of coking coal, high quality iron ores, deposits of mineral fertilizers and other natural resources.

#### Underground treasure

What is notable about the development of the complex is the economically substantiated consistency of its formation. The steel track of a small BAM [Baykal-Amur Main Line] has been laid in this area: the line runs from Tynda to Berkakit and then to Ugol'naya. Along with the Amuro-Yakutsk motor highway, it has created the conditions to develop better organization for the receiving, storing and forward shipping of freight essential to the construction sites and for the entire economic life of the region. The complex has also been provided with a reliable power supply. A standard boiler house, which supplies the city with heat, has made it possible to eliminate several dozen of the so-called individual boilers. Electrical energy flows from the Zeysskaya GES along a high-voltage power transmission line to all the construction sites and enterprises in the city and to the adjoining regions.

A good production base for construction has been established. The Stroydetal' Plant, which was built earlier in Chulman, has become the basis for the development of a plan which makes large-panel prefabricated buildings and a number of other very important facilities.

Many other social and domestic problems of the city have also been solved with consideration for the future. Neryungri has become, in sum, an example of comprehensive city development carried out with a view to the future. This experience can be applied with great benefit to the construction which is taking place in the zone around the Baykal-Amur Main Line.

All this provides in full measure for the successful building of the main production facilities of the Neryungri Open Pit Mine with a capacity of 13 million tons of coal per year: a major enriching factory and the first unit of the Neryungrinskaya GRES, with a capacity of 630,000 kilowatts.

With each day the complex acquires ever more visible outlines. In the young city large-panel buildings are going up alongside the first wooden homes. Old-time residents of the ancient taiga are joining successfully the municipal system of parks and squares.

An acquaintance with the Neryungri Open Pit Coal Mine leaves hardly anyone indifferent. Those who have seen mines only in the European parts of the country find it difficult to imagine that an entire mountain can be made of coal. But in Neryungri it actually appears before one's eyes. About 16 square kilometers are taken up by the well-known "Moshchnyy" (Powerful) seam. Its stratum is from 5 to 17 meters thick and it is worked by the open method. Excavators with scoops having a capacity of 20 cubic meters expose the top layer of earth, load the rock into 180-ton vehicles, while breaking through to the coal. The first million tons of high-calorie fuel have already been extracted and sent by rail to many electric power stations in Primorye and in Amur Oblast.

But this is power-producing coal. But to reach the main wealth of the deposit--looking coal--one needs to go farther. It has been estimated that, on average, seven to eight cubic meters of rock must be dumped in order to mine a ton of coal.

It is planned that the first tons of the most valuable coal will reach the enrichment plant in 1984. The opening of the plant has also been promised by that time. The first unit of the plant--a sorting and loading complex--were put into operation recently. The outline of the main building is delineated ever more sharply. The building which contains the drying and heating division is growing, and the foundation is being laid for the administrative and service building. The capacity of the plant is nine million tons per year.

And, finally, one more very important construction site, the Neryungrinskaya GRES. Panels are now being hung on the 20-story frame of its building. The brigade of the Gidromontazh Trust is trying to use panels to close off the part where the first unit will be located.

In order to speed up the closing of the building it was decided to assemble on the ground units of girders with roof slabs. As a result the volume of labor intensive work performed at elevated heights is reduced, electrical power is saved, and equipment is used more effectively. It was decided that the same procedure should be followed with the wall enclosures. This will enable specialists from Vostokenergomontazh to begin in good time their work of assembling equipment for the turbogenerator. The first unit of the GRES, after all, is supposed to supply power next year.



The young city and its environs are an enormous construction site. The results of the first half year testify that the builders are maintaining the high rate of work which they adopted in the first year of the five-year plan. The Yakutuglestroy Combine fulfilled 108.9 percent of the target for the six months according to the general contract and with their own efforts they fulfilled it by 107 percent. According to data from the construction directorate of the South Yakutsk Coal Complex, fixed capital worth more than 37 million rubles was introduced, plan targets were more than 110 percent fulfilled, the plan for construction and installation work was overfulfilled and 30,000 square meters of modern housing was opened. The rate of work on the priority complex of the open pit coal mine has been stepped up.

### The difficult road to coal

It goes without saying that the development of the resources of Yakutiya is not an easy matter. The builders came to lands which were almost uninhabited by man. And in addition there were difficult climatic conditions. But among these difficulties and problems there are some which do not result from the specific features of this area or its climate.

How can the extraction of coking coal be speeded up? This question concerns many workers.

For three years in a row the mine has not kept up with plans for new projects. And a noticeable lag exists today as well. One of the main reasons is the lack of the necessary number of excavators and the frequent breakdowns of the ones which are available. And it is the EFG-20 excavator, sold by the Uralmash Production Association, which the Yakutiya miners are counting on.

The plans called for the prototype of this machine to be manufactured in 1978. However, it was in fact made two years later and even now it is in the finishing stage. The five excavators which have arrived were manufactured before the removal of the defects which were discovered in the prototype. Downtime for these machines due to failure of units and parts in the past six months of this year amounted to more than 40 percent of their total calendar working time. The support point of the Ministry of Heavy and Transport Machine Building in Narynari could help to eliminate the defects and prevent the downtime of these powerful machines, which are rightly called the future of our excavator building industry. The support point was established by order of the Ministry, but, in the opinion of the users, it has not yet shown its worth. Attention should now be given to the suggestion to supply excavators with stronger blocks rather than with individual parts; this will reduce significantly the time required for on-site installation.

But we have failed to support the desire of the machine builders to have the management of the Yakutugol Association establish permanent crews for the excavators at the time machine is assembled. This will help the miners to master the new equipment faster.



There is another important aspect to this problem. Shifting industrial production to the Eastern regions and forming territorial production complexes in new areas is a long-term matter. Under these conditions it is essential to distribute correctly the manpower of the builders and the operators, to know clearly the volume of construction, to examine and confirm the priority complexes. However, although it may seem strange, the priority complexes still have not been confirmed by the USSR Ministry of the Coal Industry. And it can happen that the builders begin to put up facilities which could wait a while, while urgently needed ones are not attended to.

The head of the Yakutuglestroy Combine, V. Bocharov, emphasized that today they do not have to wait for the planning estimates for the building of the Denisovskaya and Chul'makanskaya mines before beginning construction of access roads, substations and other facilities. (Here there are gently-sloping strata of coking coal lying at not very great depth). In the opinion of a number of specialists, they should be constructed at the same time the pit is worked.

Of course, in the matter of the most rapid possible development of capacities much depends directly on the builders and operators. In order for the first coking coal to be supplied in the established amounts by 1984, they will have to remove more than 200 million more cubic meters of rock. There is hardly a case of similar intense mine work in world experience. It is all the more important to look constantly for ways to improve labor productivity. There are substantial reserves to be found here.

For example, the first mining and transport brigade was established recently at the Neryungri Open Pit Mine. Its collective is led by excavator machine operator, F. Zoloto. The brigade includes for a single duty assignment the crews of two excavators, 16 180-ton dump trucks and one bulldozer. This form of labor organization immediately showed a high rate of effectiveness. In June 780,000 cubic meters of rocks were hauled away in comparison with a plan target of 670,000. But this brigade is the only one, although there it is possible to have more. Discussions on this point have gone on for many months.

The Yakutuglestroy Combine has so far made little use of the experience acquired by A. Platonov's outstanding brigade of assemblers; this brigade has accumulated substantial experience in speeding up construction by improving the organization and payment of labor.

#### Departmental barriers

It has become a tradition that the formation of the most important territorial industrial complexes becomes a national matter for people throughout the country. However, not everyone has yet become imbued with a sense of responsibility for the fate of the South Yakutsk Territorial Production Complex.

Particular strain is caused by late shipments of a number of building materials and parts. The Khabarovskstroymaterialy Association has systematically failed to fulfill the plan target for deliveries of red brick. The

six-month funds for these deliveries were only 57 percent realized. In the first half year the Western Siberian Metallurgical Plant missed deliveries of reinforcing steel, while the Khabarovsk Building Parts Combine missed deliveries of shaped flooring. Even the Abagursk Shop which produces prefabricated buildings, which was built in Kemerovo Oblast with capital investment of the South Yakutsk Territorial Production Complex, owed the builders of Neryungri quite a lot of its output.

A number of plants of the USSR Ministry of the Coal Industry are holding back the manufacture of optional equipment. They are, in particular, the Donbass enterprises "Voroshilovgradugleremont" and "Donetskugleremont." The country's oldest coals basin must give careful attention to the needs of its younger brother.

The "Worker's Baton" program can help to increase the efforts of the collectives which are participating in the formation of the South Yakutsk Territorial Production Complex. The builders on the Neryungrinskaya GRES, whose work has been held up by the poor performance in the delivery of precast reinforced concrete, recently sent to the city of Spassk-Dal'nyy their own delegation, headed by team leader S. Semenov, to conclude with the manufacturers of this product an agreement to hold a competition. This valuable start should be supported in every way possible. The special meeting of journalists, which was held in Neryungri and organized at the initiative of the Yakutsk CPSU Obkom and the USSR Union of Journalists, will undoubtedly contribute to the development of the "Worker's Baton" program.

The initiative to conclude agreements must not be one-sided. Unfortunately, that is what has been encountered up to now. A. Deryabin, secretary of the party committee of the Neryungri Open Pit Mine, reported that the Yakutugol' Association suggested to Uralmash and the VNIIElektroprivod /All-Union Scientific Research, Planning and Design Institute for Automated Electric Drive in Industry, Agriculture and Transportation/ that an agreement be signed concerning creative cooperation. A draft of the agreement was sent to Sverdlovsk nearly a year ago, but no reply has been received yet. It is obvious that the machine builders are in no hurry to take upon themselves mutual obligations for the fastest possible development of new equipment.

The "Worker's Baton" program could also be of more active assistance in the actual construction of the complex's facilities.

In the near future the South Yakutsk complex will reach the limits of its original fuel and energy mission. The construction of several iron-ore enriching complexes capable of fully meeting the raw material needs of a large metallurgical plant is possible on the basis of the ore resources, which have been explored and added to the total of known resources, especially the Tuvutskoye, Pimierskoye, Sivaglinskoye and the Desovskoye deposits. This means that existing cities and towns must grow and new ones must arise. Today there is no doubt that the future development of a territorial production complex and improvement in its production require further improvement in management, both inter-industry and territorial management.

even at the first stage in the formation of the territorial production complex, coordination problems were acute, although there was only the USSR Ministry of the Coal Industry, playing the role of customer and contractor for the facilities under construction. Of the other ministries, the only one interacting with it was the USSR Ministry of Power and Electrification, which had begun construction of the Neryungrinskaya GRES.

Of course, inter-agency quarrels and disagreements arose and will continue to arise. In the interests of national economic development their resolution must be speeded up. However, up to now the USSR and RSFSR building materials ministries, for example, have remained aloof from the problems of the economic development of the complex. And this despite the fact that excellent deposits of vermiculite, granite and marble are located in close proximity to Neryungri. The economic benefits to be derived from developing a large construction industry here are obvious. For the present, however, building materials and parts are brought in from many hundreds and thousands of kilometers away.

And even between old partners--the USSR Ministry of the Coal Industry and the USSR Ministry of Power and Electrification, quite a few problems have arisen and by no means all of them are being solved quickly and easily. A vivid illustration is the attempt to establish a united production base--the claydite installation. V. Kamenev, head of the construction administration for the Neryungrinskaya GRES, complains: "Each of the ministries involved in the construction attempts to solve its own problems in isolation. This all slows down the rate of work considerably."

In brief, that is why many people think that a single coordinating organ is necessary. It is well known that a commission of the USSR Council of Ministers has been formed to deal with the development of the Western Siberian oil and gas complex, and that an inter-industry territorial commission, located in Tyumen, has been formed under the umbrella of USSR Gosplan. Would it not be advisable to make use of this experience in the development of the South Yakutsk Territorial Production Complex?

The Neryungri, a small taiga river with a sonorous, Evenki name, has said farewell to loneliness forever. The people who have come to its banks are introducing the taiga region to a great, full-blooded life.

8943

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## GENERAL

### TYUMEN' ADMINISTRATIVE PROBLEMS EXAMINED

Moscow STROITEL'NAYA GAZETA in Russian 21 Jul 82 p 3

[Article by G. Sorokin, expert in the capital construction sub-department of the Inter-Agency Territorial Commission on the Development of the Western-Siberian Oil and Gas Complex of USSR Gosplan: "Who Is the Leader Here?"]

[Text] The entire country, including planners, is helping the Siberians to set up the Tyumen oil and gas project. The technical documentation is being developed by 70 institutes in Moscow, Leningrad, Donetsk, Saratov, Novosibirsk and many other cities, as well as by 15 local planning and surveying organizations.

It would seem that this impressive strength would be capable of resolving the most complex problems. But, in reality, things are not turning out as one would like. There are many facts which testify to this.

As long ago as 1976 Siborggazstroy of Glavtyumenneftegazstroy developed an original design for the foundations which go under tanks and pumping units for pipelines. The use of this design makes it possible to reduce labor intensiveness significantly and to shorten the amount of time needed to build the foundations. Although this innovation was put into practice only in 1980, it saved more than 2 million rubles in the short period of one year. One can only regret that it has still not come into common use.

Another example. Seven small service stations are planned for various Mingazprom [Ministry of the Gas Industry] enterprises in the Novyy Urengoy city area. By itself the preparatory engineering work for the construction is budgeted for 8 million rubles. But if one large motor-vehicle enterprise were established, the expense could be cut in half. And the total economic benefit in this case can amount to 25 million rubles. And it is in just this uncoordinated manner that numerous storage terminals, river moorings and other facilities to provide basic production capacities are being planned.

In the face of it this is the usual lack of coordination among departments; there is a constant need to promote effective integration among institutes of geologists, power engineering specialists, oil-industry workers, gas-industry workers and the builders, who are participating in the development

of the new territories of Western Siberia. A top-priority need is to determine which is the head territorial organization.

Until recently the coordinating functions were carried out by the No 2 Planning Institute of USSR Gosstroy, located in Moscow with a branch in Surgut. The weakness of the branch's equipment and supply base, and the obvious passivity of the No 2 Planning Institute itself, which over a period of years has not yet achieved the necessary priority in the solution of fundamental problems of construction in the oblast, prompted the Tyumen Oblkom of the CPSU to appeal to Moscow with a request that the functions of the territorial planning organization be entrusted to the local institute, Tyumen'promstroyproyekt, of the USSR Ministry of Industrial Construction and to make it subordinate to USSR Gosstroy.

Beginning in 1983 Tyumen'promstroyproyekt will be considered the head territorial organization. However, the institute will remain as before under the jurisdiction of the Ministry of Industrial Construction.

It seems that this is a compromise decision. One must not fail to take into account the fact that in the future the volume of planning for facilities of the Ministry of Industrial Construction in Tyumen' Oblast will be extremely insignificant. And, naturally, not a single ruble was allotted this year to Tyumen'promstroyproyekt to expand its material-technical base. It was given half as much for its share of participation in housing construction, and, of chief importance, the volume of planning work for projects in the area was reduced. Therefore, one would like an answer to the question: will this institute be able to fulfill its inter-industry functions?

The rapid growth of capital investment and the ever growing role of the Tyumen region in the country's national economy bring to the fore the problem of broader planning as well. For purposes of comprehensive implementation of a unified technical policy, for the operational solution of tactical problems and the implementation of effective plans, it makes sense to consider opportunities to create a special coordinating area (territorial) institute to deal with the problems of Western Siberia: it would be located in Tyumen itself.

8543

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## GENERAL

### TYUMEN' TRANSPORTATION BOTTLENECKS DESCRIBED

Moscow GUDOK in Russian 18 Aug 82 p 2

[Article by A. Cherin, head of the temporary operations division of the Tyumenstroyput' Construction Administration: "Constant Problems of Temporary Operations"]

[Text] It is completely obvious that the construction of the Tyumen' to Surgut railway line and of spur lines to Nizhnevartovsk and Urengoy has contributed to the production of oil and gas in Tyumen' Oblast and to the increased development of the North. The railway sector which goes as far as Nizhnevartovsk has been put into continuous operation already. The line to Urengoy, which extends more than 600 kilometers, is operating on a temporary timetable. There is more and more freight to be transported along this line, including freight for the gas works in the Novo-urengoy zone.

We are doing everything possible to speed up the movement of this freight. We are arranging for the addition of ballast; we are lifting and straightening the track.

Our small collective regularly overfulfills the targets for volume of work performed. We fulfilled 118 percent of the plan for shipments in the first year of the current five-year plan. This year it has been increased by 20 percent. This is required by circumstances. Unfortunately we do not always find support among those who receive the shipments and the managers of their enterprises.

For example, rails were laid through the Noyabr'skaya and Khanto stations as long ago as April of 1978. By that time none of the receiving organizations, with the exception of subdivisions of the Ministry of the Gas Industry, had plans for the construction of unloading areas and sidings. They developed these plans later, but they were temporary ones, which were not related to the plan for the future development of the stations. On the basis of a temporary arrangement, unloading sidings were built a year later at the Khanto station. It was only after three more years that two station tracks were laid, also according to a temporary arrangement. But after this it became impossible to use one of the sidings.

The division of temporary operations was forced to organize the unloading of incoming production at the receiving and shipping track of the station and to ship freight out by the open lines from Noyabr'skaya to Thanto and Khanto to Top-mey. This complicated the train situation in this sector, delayed the shipment of freight to the North and held up deliveries of "windows" to the builders.

It is true that there were some receiving organizations which showed a fully responsible attitude toward the arrival of freight and the processing of rail cars. The Ukrainian organizations and the road-construction contingent from Latvia, which arrived to build housing and motor vehicle roads, constructed over the course of a year the necessary freight handling sidings. Immediately upon arrival, the managers of the road-construction division of Lithuania showed concern for the laying of access routes at the Kogalym station.

This year a significant amount of the freight handling is being shifted to the final point of the line under construction. This is in direct proximity to the work site of the gas deposits. In order to avoid delays in the arrival there of gas conduits, equipment and other freight, the Ministry of Construction of Petroleum and Gas Industry Enterprises, the Ministry of the Gas Industry and other related organizations must provide themselves immediately with access track and sidings for freight handling.

With the increase in the flow of freight to the North, we are concerned about its forward movement. The problem is that diesel engines travel 450 kilometers from our main locomotive depot to the Noyabr'skaya station. With slow speeds on the final sections of the line, it will take them days to turn around. We have organized a round-trip journey for the locomotive brigades. But the technical state of the equipment makes us wary. One way or another we have managed to equip the depot in Noyabr'skaya with lathes and other equipment. But we are not able to supply the repair base with spare parts, blocks or new units. They are not given to us in the plan. We get them where we can.

Obtaining material and equipment long ago became an unresolved problem with us. For 15 years the temporary operations division has not received by means of a centralized procedure signal lanterns, portable radio stations, or high-speed belts. The plans do not call for our locomotive and car barns to have machine tool equipment, or various other machines and pieces of apparatus. For the coming winter two snow removal vehicles are needed for stations and open lines. However, we do not have them.

At present we badly need a locomotive barn in Urengoy. However, the construction plans do not call for one. Not having at our disposal funds or equipment, it is impossible for us to build one through our own efforts. Nor does the plan call for the division of temporary operations to be assigned any temporary housing for our staff. In the Northern taiga one cannot count only on what one can build by oneself.

Nor is the problem of permanent housing being solved in our organization. There are people who have worked for 10 or more years in difficult areas and who do not have permanent quarters. And they are still faced with the prospect

of being moved further North, where working conditions are incomparably more difficult and severe. In order to interest and to keep experienced people it is essential to build housing for them in the region of Tyumen' and Tobol'sk.

When the railway lines in the North were planned, no thought was given to protecting the tracks from snow drifts. The lines, as a rule, run through open tundra, in high-wind zones. Last winter these places were subjected to large snow drifts. Much time and manpower was spent on snow removal. This coming winter unprotected areas will, of course, contribute to interruptions in rail traffic. It is essential for the appropriate planning institutes to make urgent proposals to protect lines and stations from snow drifts.

The movement of passenger trains has been organized on the basis of sector-by-sector temporary operations. The Tyumen' to Noyabr'skiy train is filled to overflowing in the holiday period. It is the only regular transportation over the vast territory of the North. We think it advisable to extend this route by 200 kilometers to the Purpe station.

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GENERAL

## TRAINING OF PETROLEUM WORKERS IN BAKU TEKHNIKUM PRAISED

Baku VYSHKA in Russian 4 Jun 82 p 4

/Article by O. Nechipurenko: "A Pass to the Vital Front"

/Text/ At the 26th congress of the republic's Komsomol it was noted that young people have traditionally comprised the shock troops of the oil army of Azerbaijan, and it is they who must utter the decisive word at the new stage of development in the republic's petroleum industry. Another top-priority matter concerns the 4,000 young petroleum workers who do not have a complete secondary education: they are to receive it in the coming years.

A large role in the solution of these problems has been assigned to the collective of the Baku Petroleum Tekhnikum imeni Oktyabr'skaya Revolyutsiya the oldest educational institutions in Azerbaijan, in the very first days of the Soviet five-year plans it became a genuine forge of petroleum personnel not only for Azerbaijan, but for the entire country and a number of foreign countries as well. This year alone about 700 graduates of the tekhnikum will go to oil fields and rigs; they will stand behind the control panels of petroleum refining installations and the lathes of machine building plants. And in the 60 years since its founding, the more than 21,000 specialists trained within its walls have made a weighty contribution to the development of the fuel and energy complex of our state.

The strict committee before which Mirza Eynullayev defended his diploma project, "The Construction of a Well at a Planned Depth of 4,750 Meters in the Duvanny-Sea Area," was satisfied with him. The members of the committee were particularly interested in the diploma candidate's resolution of the specialized question of methods to combat the constriction of the well shaft.

"What is most characteristic of this lad, who came to our tekhnikum from Izobilinskiy Rayon," says teacher Nadira kharun Kerimova, "is his inquisitiveness, his attempts to penetrate the very essence of a problem and solve it. There are good reasons why he was awarded his diploma with distinction. I think that he and his classmates Gabib Asadov, Akif Kurbanov, Mamedal Safarov and others, will be very useful on the rigs at sea."

Of some interest was the diploma defense of another graduate, honor student Fakhratdin Mamedov, a future technician specializing in the operation of oil field equipment. The deputy director of the tekhnikum in charge of academic matters, Ramiz Narimanovich Akhmedov, who is a petroleum engineer, discussed the student's work, which was devoted to a choice of a method to remove sand plugs from oil wells; he also discussed the diploma project of Evdokia Bagayev on preventing the formation of an emulsion in compressor wells, work which is both important as well as interesting.

"After graduating from the tekhnikum our work will be far from our native Azerbaijan, in the oil fields of the Tyumen' North," says Fakhratdin. "Dozens of our comrades who finished the tekhnikum in previous years are already working on the development of the resources of that area now. And we shall try not to let down the honor of Baku, the 'oil academy' of the country."

About 200 of the 1982 graduates--drillers, oil field technologists, geologists, geophysicists, oil refiners, and specialists in a number of other occupations--will go outside the republic to work: to Siberia, to Central Asia, to Kazakhstan, to Checheno-Ingushetiya, and to other regions of the country, to help to develop the stores of natural fuel.

In the foreign student division Magomed Mamedov, a methods specialist, opened before me the Book of Graduates' Comments. It contained photographs of young people of the most varied ethnic groups and nationalities of the world along with many touching phrases, warm, heart-felt words of sincere appreciation to the teachers and Soviet classmates who had helped them to become professional oil workers. Students from 26 Asian, African and Latin American countries are now acquiring here a speciality which is vitally necessary in their developing countries.

At the tekhnikum I was familiarized with a brochure published on the occasion of its jubilee. In it one could follow clearly the path traversed by the tekhnikum in its 60 years. The years of the 9th and 10th five-year plans were especially productive here. During this time the academic load of the tekhnikum was doubled; today it has 40 study rooms and classrooms, 1,500 units of technical aids for instruction. Incidentally, a number of them were developed by students and instructors themselves, and they have won quite a few diplomas and medals of the USSR VDNKH for their work. For example, a student in the geophysical division, Ramiz Mamedov, won the silver medal in the country's main exhibition of the 1982 VDNKH for the display that he made under the direction of his instructor, Mikhail Martirosovich Khadzhibekyan.



The effective organization of the student's on-the-job training experience, during which they work side-by-side with actual employees, also contributes substantially to the high quality of the students' training. Many students perform in an exemplary fashion during their practicum. The book of Honor of the sixth oil field of the Leninneft' Oil and Gas Production Administration contains, for example, the name of practicum student A. Faradzhev. The Honor Roll of the Oil and Gas Production Association imeni the 26th CPSU Congress contains the name of P. Guliyev, who completed his work experience there. Many other alumni of the Baku Petroleum Tekhnikum have also distinguished themselves.

According to Ashot Bagratovich Gas'ymov, deputy director in charge of on-the-job training and a veteran of the tekhnikum: "This takes place mainly because we try to combine the students' acquisition of practical skills with study about the history and traditions of the enterprises in which they are working, along with active participation in socialist competition there.

Much has been done. But the collective also has great plans for the current five-year period. The tekhnikum has recently established an experimental design bureau, which already has a contract to develop automated production lines for the Machine Building Plant imeni B. Sardarov. The contract, which is worth 30,000 rubles will be filled during the current year. The students and instructors are working together in one of the dormitories to establish an amateur short-wave radio station; they are also expanding the students' recreation camp in Nabrani and working on a new sports facility.

Established in the year the USSR was formed, the Baku Petroleum Tekhnikum is greeting the country's jubilee with new successes in the training of highly-skilled specialists for the petroleum industry. The collective is directing all of its strength to further improve the education process in order to ensure that its graduates make even greater contributions to the solution of the problems set out by the 26th CPSU Congress with regard to the development of the country's fuel and energy complex.

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## GENERAL

### BRIEFS

MAP OF MAGNETIC FIELD--Ust'-Kut, Irkutsk Oblast--The collective of the Eastern Siberian Scientific-Research Institute of Geology, Geophysics and Mineral Raw Materials has prepared a map of a magnetic field; the map encompasses an enormous area adjoining the route of the Baykal Amur Mainline--from the banks of the Lena to the Sea of Okhotsk. Along with other geological geochemical and geophysical materials, it will help people to study more fully deposits which are already well known, and it will help to discover the way to new stores of minerals. [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 6 May 82 p 17 8543

NEW PETROLEUM CITY--Tomsk, 14 July, TASS--Development of the Luginetskoye petroleum deposits, located in the taiga in the south western part of Tomsk Oblast, has begun. A Komsomol-youth landing force of the Tomskneft' Association has begun to build a city here. It has been planned, as was Strezhevoy, which was built on piles, with consideration for the severe Siberian climate. Heated lobbies in buildings, triple glazed windows, and living quarters with a closed in design all protect the residents against the northern wind and frosts. The first buildings are scheduled to be handed over in the summer. In addition to the city, farms and greenhouses will be established for supplementary, private farming. The city will become the industrial and residential base for oil workers. The collective of the association bound itself to produce oil for the 60th anniversary of the formation of the USSR. [Text] [Moscow PRAVDA in Russian 15 Jul 82 p 1] 8543

NEW KIRGHIZ COMPLEX SITED--Frunze--Kirghiz scientists have helped to determine which areas are least subject to earthquakes and therefore most suitable for the construction of industrial enterprises, mines and hydro-electric power plants in the southeastern part of the republic. They have turned over to the planners a map of the seismic regions in the basin of the Sary-Dzhaz and Torgen-Aksu rivers. Plans call for the establishment of a territorial production complex in the area between the rivers. It is rich in tin, tungsten, molybdenum, and coal. Reserves of granite and marble with unique coloration have been discovered here. [Text] [Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 26 Jun 82 p 27 8543

SOVIET ENERGY RESERVES ADEQUATE--Magadan--Question: One frequently hears about shortages of electricity or gas. Is this not evidence that the energy crisis has reached our country? V. Katkov. Answer: No, it is not evidence. The

Soviet Union has its own energy resources and does not depend on imports. The USSR is the world's number one producer of fuel. In the last 10 years the annual production of petroleum and gas condensate increased in our country by 250 million tons. Further growth in the production of fuel is planned for the 80's. Instances of shortages of petroleum products, coal and energy are explained by inadequacies in planning, missed deliveries, etc. But the main reason for these phenomena is irrational use of fuel and energy. That is why a policy of economy has been adopted, a policy which aims at fuller and more careful use of the resources which the country has at its disposal. /Text/ /Moscow KOMSOMOL'SKAYA PRAVDA in Russian 14 Jul 82  
p 27 8543

NEW THERMO-ELECTRIC GENERATOR--The "Sever" (North) thermo-electric generator was developed by the non-governmental organization "Kvant" to provide heat and light for the yurt of reindeer breeders and the temporary shelters of geologists, petroleum workers and builders. This compact machine works on any fuel--kerosene, gas, diesel fuel, natural or compressed gas, supplying the lighting circuit with alternating current of 220 volts, as well as heating air which is blown through a heat outlet system. The amount of hot air supplied to an area is regulated by a special door. The generator is reliable, noiseless when in operation and convenient to use. /Text/ /Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 8 May p 27 8543

EKIBASTUZ EMPLOYEE COMPLAINTS--Our magazine has frequently (No 4, 1979; No 7, 1980; No 11, 1981) raised the issue of transportation service problems at the Ekibastuz Fuel and Power Complex. In particular, it was pointed out in these materials that one of the most acute problems for Ekibastuz motor vehicle transport enterprises is the matter of residential construction and the production base. Recently an order of the Ministry of Motor Vehicle Transportation of the Kazkh SSR confirmed supplementary measures to improve the living conditions of motor transportation employees and to raise the level of transport services provided for the working people of the city of Ekibastuz. Specifically, it called for construction in 1982 of a 90-apartment residential building and motor vehicle enterprises for 200 trucks. Under study is the possibility of including in the 1983-1985 plan for contracting organizations in the city of Ekibastuz construction of a dormitory with places for 100 people with small families. Ekibastuz motor enterprises are scheduled to receive in 1982 30 small-ton trucks and two RAF-2203 minibuses. TSNOTNITI /not further identified/, along with the Pavlodarsk Passenger Administration is entrusted with the development of a plan of organizational and technical measures to provide greater satisfaction of the needs of the Ekibastuz population for bus transportation. Further, in order to reduce peak loads on commonly used routes, it is to study the possibility of staggering the opening hours of enterprises, organizations and other institutions. If necessary, proposals will also be made with regard to improvements in the route structure and location of stops, and the organization of bus traffic according to the days of the week and the hours of the day. In order to improve the organization of transportation to work and back for blue- and white-collar workers employed in the construction or operation of the Ekibastuz GRES-1 or GRES-2, the KazNIPIAT /Kazakh Scientific Research and Planning Institute of Automobile

Transportation<sup>7</sup> has been entrusted with the task of studying the possibility of staggering the starting hours of shifts at various work sites, determining a rational route system and traffic organization plan, as well as devising a system to take into account and monitor the satisfaction--which has been--guaranteed--of transportation requirements on all days of the week. <sup>7</sup>Text<sup>7</sup>  
Alma-Ata AVTOMOBIL'NYY TRANSPORT KAZAKHSTANA in Russian No 3, 82 p 17 8543

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